

## SEQUENCE LISTING

<110> NOVAK, MICHAL  
KONTSEKOVA, EVA  
KOVACECH, BRANISLAV  
SKRABANA, ROTISLAV

<120> HUMANIZED TAU ANTIBODIES IN ALZHEIMER'S DISEASE

<130> 11634.6003.00000

<140>

<141>

<160> 177

<170> PatentIn version 3.5

<210> 1

<211> 5

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 1

Asp Tyr Val Ile Ser

1 5

<210> 2

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
peptide

<400> 2

Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe Lys

1 5 10 15

Gly

<210> 3

<211> 11

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 3

Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr  
1 5 10

<210> 4

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 4

Lys Ser Ser Gln Ser Leu Leu Asn Ser Arg Thr Arg Lys Asn Tyr Leu  
1 5 10 15

Ala

<210> 5

<211> 7

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 5

Trp Ala Ser Thr Arg Glu Ser  
1 5

<210> 6

<211> 8

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic peptide

<400> 6

Lys Gln Ser Phe Tyr Leu Arg Thr  
1 5

<210> 7  
<211> 120  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 7

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Thr  
1 5 10 15

Ser Val Lys Met Pro Cys Lys Ala Ser Gly Tyr Ile Phe Thr Asp Tyr  
20 25 30

Val Ile Ser Trp Val Lys Gln Arg Thr Gly Gln Gly Leu Glu Trp Ile  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Asn Thr Ala Tyr  
65 70 75 80

Met Gln Leu Ser Ser Val Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Ser Val Thr Val Ser Ser  
115 120

<210> 8  
<211> 112  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 8

Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala Val Ser Ala Gly  
1 5 10 15

Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser  
20 25 30

Arg Thr Arg Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln  
35 40 45

Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
50 55 60

Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
65 70 75 80

Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr Tyr Cys Lys Gln  
85 90 95

Ser Phe Tyr Leu Arg Thr Phe Gly Gly Gly Thr Lys Leu Asp Ile Lys  
100 105 110

<210> 9

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 9

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Thr  
1 5 10 15

Ser Val Lys Met Pro Cys Lys Ala Ser Gly Tyr Ile Phe Thr Asp Tyr  
20 25 30

Val Ile Ser Trp Val Lys Gln Arg Thr Gly Gln Gly Leu Glu Trp Ile  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Asn Thr Ala Tyr  
65 70 75 80

Met Gln Leu Ser Ser Val Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Ser Val Thr Val Ser Ser  
115 120

<210> 10

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 10

Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala Val Ser Ala Gly  
1 5 10 15

Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser  
20 25 30

Arg Thr Arg Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln  
35 40 45

Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
50 55 60

Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
65 70 75 80

Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr Tyr Cys Lys Gln  
85 90 95

Ser Phe Tyr Leu Arg Thr Phe Gly Gly Gly Thr Lys Leu Asp Ile Lys  
100 105 110

<210> 11

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 11

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Thr  
1 5 10 15

Ser Val Lys Met Pro Cys Lys Ala Ser Gly Tyr Ile Phe Thr Asp Tyr  
20 25 30

Val Ile Ser Trp Val Lys Gln Arg Thr Gly Gln Gly Leu Glu Trp Ile  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Asn Thr Ala Tyr  
65 70 75 80

Met Gln Leu Ser Ser Val Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Ser Val Thr Val Ser Ser  
115 120

<210> 12

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 12

Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala Val Ser Ala Gly  
1 5 10 15

Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser  
20 25 30

Arg Thr Arg Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln  
35 40 45

Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
50 55 60

Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
65 70 75 80

Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr Tyr Cys Lys Gln  
85 90 95

Ser Phe Tyr Leu Arg Thr Phe Gly Gly Gly Thr Lys Leu Asp Ile Lys  
100 105 110

<210> 13

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 13

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Arg | Asp | Tyr | Tyr | Gly | Thr | Ser | Phe | Ala | Met | Asp | Tyr | Trp | Gly | Gln |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |

|     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Thr | Leu | Val | Thr | Val | Ser | Ser |
|     |     | 115 |     |     |     | 120 |     |

<210> 14  
 <211> 120  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic polypeptide

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gln | Val | Gln | Leu | Val | Gln | Ser | Gly | Pro | Glu | Val | Lys | Lys | Pro | Gly | Ser |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ser | Val | Lys | Val | Pro | Cys | Lys | Ala | Ser | Gly | Tyr | Ile | Phe | Thr | Asp | Tyr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Ile | Ser | Trp | Val | Lys | Gln | Ala | Pro | Gly | Gln | Gly | Leu | Glu | Trp | Ile |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Glu | Ile | Phe | Pro | Arg | Ser | Gly | Ser | Thr | Tyr | Tyr | Asn | Glu | Lys | Phe |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Lys | Gly | Lys | Ala | Thr | Leu | Thr | Ala | Asp | Lys | Ser | Thr | Ser | Thr | Ala | Tyr |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Glu | Leu | Ser | Ser | Leu | Arg | Ser | Glu | Asp | Thr | Ala | Val | Tyr | Phe | Cys |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ala | Arg | Asp | Tyr | Tyr | Gly | Thr | Ser | Phe | Ala | Met | Asp | Tyr | Trp | Gly | Gln |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |

|     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Thr | Leu | Val | Thr | Val | Ser | Ser |
|     |     | 115 |     |     |     | 120 |     |

<210> 15  
 <211> 120  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 15

Gln Val Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Pro Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 16

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 16

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asp Tyr  
20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
 35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser  
 115 120

<210> 17  
 <211> 120  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 polypeptide

<400> 17  
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Ile Phe Ser Asp Tyr  
 20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
 35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys

85

90

95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser  
 115 120

&lt;210&gt; 18

&lt;211&gt; 120

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
 polypeptide

&lt;400&gt; 18

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Thr Asp Tyr  
 20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
 35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser  
 115 120

&lt;210&gt; 19

&lt;211&gt; 120

<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 19  
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
20 25 30

Val Ile Ser Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 20  
<211> 120  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 20  
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr

20

25

30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile  
 35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser  
 115 120

&lt;210&gt; 21

&lt;211&gt; 120

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Description of Artificial Sequence: Synthetic polypeptide

&lt;400&gt; 21

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
 20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
 35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Lys Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 22

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 22

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Arg Ala Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 23  
<211> 120  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 23

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Arg Val Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 24  
<211> 120  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 24

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 25

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 25

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asp Tyr  
20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser  
115 120

<210> 26

<211> 112

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 26

Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly  
1 5 10 15

Glu Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser  
20 25 30

Arg Thr Arg Lys Asn Tyr Leu Ala Trp Tyr Leu Gln Lys Pro Gly Gln  
35 40 45

Ser Pro Gln Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
50 55 60

Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys  
65 70 75 80

Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Lys Gln  
85 90 95

Ser Phe Tyr Leu Arg Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys  
100 105 110

<210> 27  
<211> 112  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 27  
Asp Ile Val Met Ser Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly  
1 5 10 15

Glu Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser  
20 25 30

Arg Thr Arg Lys Asn Tyr Leu Ala Trp Tyr Leu Gln Lys Pro Gly Gln  
35 40 45

Ser Pro Gln Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
50 55 60

Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys  
65 70 75 80

Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Lys Gln  
85 90 95

Ser Phe Tyr Leu Arg Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys  
100 105 110

<210> 28  
<211> 450  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 28  
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala  
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
180 185 190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys  
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp  
210 215 220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly  
225 230 235 240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile  
245 250 255

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu  
260 265 270

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His  
275 280 285

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg  
290 295 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys  
305 310 315 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu  
325 330 335

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr  
340 345 350

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu  
355 360 365

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp  
370 375 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val  
385 390 395 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp  
405 410 415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His  
420 425 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro  
435 440 445

Gly Lys  
450

<210> 29

<211> 450  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 29

Gln Val Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Pro Cys Lys Ala Ser Gly Tyr Ile Phe Thr Asp Tyr  
20 25 30

Val Ile Ser Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala  
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
180 185 190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys  
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp  
210 215 220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly  
225 230 235 240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile  
245 250 255

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu  
260 265 270

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His  
275 280 285

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg  
290 295 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys  
305 310 315 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu  
325 330 335

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr  
340 345 350

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu  
355 360 365

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp  
370 375 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val  
385 390 395 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp

405

410

415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His  
 420 425 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro  
 435 440 445

Gly Lys  
 450

<210> 30

<211> 450

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 polypeptide

<400> 30

Gln Val Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys Pro Gly Ser  
 1 5 10 15

Ser Val Lys Val Pro Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
 20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
 35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
 115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala  
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
180 185 190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys  
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp  
210 215 220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly  
225 230 235 240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile  
245 250 255

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu  
260 265 270

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His  
275 280 285

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg  
290 295 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys  
305 310 315 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu  
325 330 335

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr

340

345

350

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu  
 355 360 365

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp  
 370 375 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val  
 385 390 395 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp  
 405 410 415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His  
 420 425 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro  
 435 440 445

Gly Lys  
 450

<210> 31

<211> 450

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 polypeptide

<400> 31

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asp Tyr  
 20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
 35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala  
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
180 185 190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys  
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp  
210 215 220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly  
225 230 235 240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile  
245 250 255

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu  
260 265 270

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His

275

280

285

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg  
 290 295 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys  
 305 310 315 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu  
 325 330 335

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr  
 340 345 350

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu  
 355 360 365

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp  
 370 375 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val  
 385 390 395 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp  
 405 410 415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His  
 420 425 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro  
 435 440 445

Gly Lys  
 450

<210> 32

<211> 450

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 polypeptide

<400> 32

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Ile Phe Ser Asp Tyr  
20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala  
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
180 185 190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys  
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp

210

215

220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly  
 225 230 235 240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile  
 245 250 255

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu  
 260 265 270

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His  
 275 280 285

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg  
 290 295 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys  
 305 310 315 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu  
 325 330 335

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr  
 340 345 350

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu  
 355 360 365

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp  
 370 375 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val  
 385 390 395 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp  
 405 410 415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His  
 420 425 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro  
435 440 445

Gly Lys  
450

<210> 33  
<211> 450  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 33  
Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Thr Asp Tyr  
20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala  
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 145 |     | 150 |     | 155 |     | 160 |     |     |     |     |     |     |     |     |     |
| Trp | Asn | Ser | Gly | Ala | Leu | Thr | Ser | Gly | Val | His | Thr | Phe | Pro | Ala | Val |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Leu | Gln | Ser | Ser | Gly | Leu | Tyr | Ser | Leu | Ser | Ser | Val | Val | Thr | Val | Pro |
|     |     |     | 180 |     |     |     |     | 185 |     |     |     |     | 190 |     |     |
| Ser | Ser | Ser | Leu | Gly | Thr | Gln | Thr | Tyr | Ile | Cys | Asn | Val | Asn | His | Lys |
|     |     | 195 |     |     |     |     | 200 |     |     |     |     | 205 |     |     |     |
| Pro | Ser | Asn | Thr | Lys | Val | Asp | Lys | Lys | Val | Glu | Pro | Lys | Ser | Cys | Asp |
|     | 210 |     |     |     |     | 215 |     |     |     |     | 220 |     |     |     |     |
| Lys | Thr | His | Thr | Cys | Pro | Pro | Cys | Pro | Ala | Pro | Glu | Leu | Leu | Gly | Gly |
| 225 |     |     |     |     | 230 |     |     |     |     | 235 |     |     |     |     | 240 |
| Pro | Ser | Val | Phe | Leu | Phe | Pro | Pro | Lys | Pro | Lys | Asp | Thr | Leu | Met | Ile |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Ser | Arg | Thr | Pro | Glu | Val | Thr | Cys | Val | Val | Val | Asp | Val | Ser | His | Glu |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Asp | Pro | Glu | Val | Lys | Phe | Asn | Trp | Tyr | Val | Asp | Gly | Val | Glu | Val | His |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Asn | Ala | Lys | Thr | Lys | Pro | Arg | Glu | Glu | Gln | Tyr | Asn | Ser | Thr | Tyr | Arg |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Val | Val | Ser | Val | Leu | Thr | Val | Leu | His | Gln | Asp | Trp | Leu | Asn | Gly | Lys |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Glu | Tyr | Lys | Cys | Lys | Val | Ser | Asn | Lys | Ala | Leu | Pro | Ala | Pro | Ile | Glu |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Lys | Thr | Ile | Ser | Lys | Ala | Lys | Gly | Gln | Pro | Arg | Glu | Pro | Gln | Val | Tyr |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Thr | Leu | Pro | Pro | Ser | Arg | Glu | Glu | Met | Thr | Lys | Asn | Gln | Val | Ser | Leu |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp  
 370 375 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val  
 385 390 395 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp  
 405 410 415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His  
 420 425 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro  
 435 440 445

Gly Lys  
 450

<210> 34  
 <211> 450  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 polypeptide

<400> 34  
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
 20 25 30

Val Ile Ser Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
 35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys

85

90

95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
 115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala  
 130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
 145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
 165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
 180 185 190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys  
 195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp  
 210 215 220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly  
 225 230 235 240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile  
 245 250 255

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu  
 260 265 270

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His  
 275 280 285

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg  
 290 295 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys  
305 310 315 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu  
325 330 335

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr  
340 345 350

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu  
355 360 365

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp  
370 375 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val  
385 390 395 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp  
405 410 415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His  
420 425 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro  
435 440 445

Gly Lys  
450

<210> 35

<211> 450

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 35

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr

20

25

30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile  
 35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
 115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala  
 130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
 145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
 165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
 180 185 190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys  
 195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp  
 210 215 220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly  
 225 230 235 240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile  
 245 250 255

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu  
 260 265 270

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His  
 275 280 285

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg  
 290 295 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys  
 305 310 315 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu  
 325 330 335

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr  
 340 345 350

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu  
 355 360 365

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp  
 370 375 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val  
 385 390 395 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp  
 405 410 415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His  
 420 425 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro  
 435 440 445

Gly Lys  
 450

<210> 36  
 <211> 450  
 <212> PRT  
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 36

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
 20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
 35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Lys Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
 115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala  
 130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
 145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
 165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
 180 185 190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys  
 195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp  
 210 215 220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly  
 225 230 235 240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile  
 245 250 255

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu  
 260 265 270

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His  
 275 280 285

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg  
 290 295 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys  
 305 310 315 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu  
 325 330 335

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr  
 340 345 350

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu  
 355 360 365

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp  
 370 375 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val  
 385 390 395 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp  
405 410 415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His  
420 425 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro  
435 440 445

Gly Lys  
450

<210> 37

<211> 450

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 37

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Arg Ala Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
 115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala  
 130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
 145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
 165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
 180 185 190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys  
 195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp  
 210 215 220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly  
 225 230 235 240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile  
 245 250 255

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu  
 260 265 270

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His  
 275 280 285

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg  
 290 295 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys  
 305 310 315 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu  
 325 330 335

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr  
340 345 350

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu  
355 360 365

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp  
370 375 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val  
385 390 395 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp  
405 410 415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His  
420 425 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro  
435 440 445

Gly Lys  
450

<210> 38

<211> 450

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 38

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Arg Val Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
 115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala  
 130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
 145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
 165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
 180 185 190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys  
 195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp  
 210 215 220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly  
 225 230 235 240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile  
 245 250 255

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu  
 260 265 270

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His  
275 280 285

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg  
290 295 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys  
305 310 315 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu  
325 330 335

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr  
340 345 350

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu  
355 360 365

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp  
370 375 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val  
385 390 395 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp  
405 410 415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His  
420 425 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro  
435 440 445

Gly Lys  
450

<210> 39

<211> 450

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 39

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala  
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
180 185 190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys  
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp  
 210 215 220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly  
 225 230 235 240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile  
 245 250 255

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu  
 260 265 270

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His  
 275 280 285

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg  
 290 295 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys  
 305 310 315 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu  
 325 330 335

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr  
 340 345 350

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu  
 355 360 365

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp  
 370 375 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val  
 385 390 395 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp  
 405 410 415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His  
 420 425 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro  
 435 440 445

Gly Lys  
 450

<210> 40  
 <211> 450  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 polypeptide

<400> 40  
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asp Tyr  
 20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
 35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
 115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala  
 130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
180 185 190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys  
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp  
210 215 220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly  
225 230 235 240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile  
245 250 255

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu  
260 265 270

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His  
275 280 285

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg  
290 295 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys  
305 310 315 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu  
325 330 335

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr  
340 345 350

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu  
355 360 365

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp  
 370 375 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val  
 385 390 395 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp  
 405 410 415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His  
 420 425 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro  
 435 440 445

Gly Lys  
 450

<210> 41

<211> 450

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 41

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Thr  
 1 5 10 15

Ser Val Lys Met Pro Cys Lys Ala Ser Gly Tyr Ile Phe Thr Asp Tyr  
 20 25 30

Val Ile Ser Trp Val Lys Gln Arg Thr Gly Gln Gly Leu Glu Trp Ile  
 35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Asn Thr Ala Tyr  
 65 70 75 80

Met Gln Leu Ser Ser Val Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Ser Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
115 120 125

Phe Pro Leu Ala Pro Ser Ser Lys Ser Thr Ser Gly Gly Thr Ala Ala  
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
180 185 190

Ser Ser Ser Leu Gly Thr Gln Thr Tyr Ile Cys Asn Val Asn His Lys  
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Lys Val Glu Pro Lys Ser Cys Asp  
210 215 220

Lys Thr His Thr Cys Pro Pro Cys Pro Ala Pro Glu Leu Leu Gly Gly  
225 230 235 240

Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile  
245 250 255

Ser Arg Thr Pro Glu Val Thr Cys Val Val Val Asp Val Ser His Glu  
260 265 270

Asp Pro Glu Val Lys Phe Asn Trp Tyr Val Asp Gly Val Glu Val His  
275 280 285

Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Tyr Asn Ser Thr Tyr Arg  
290 295 300

Val Val Ser Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys  
 305 310 315 320

Glu Tyr Lys Cys Lys Val Ser Asn Lys Ala Leu Pro Ala Pro Ile Glu  
 325 330 335

Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr  
 340 345 350

Thr Leu Pro Pro Ser Arg Glu Glu Met Thr Lys Asn Gln Val Ser Leu  
 355 360 365

Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp  
 370 375 380

Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val  
 385 390 395 400

Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser Lys Leu Thr Val Asp  
 405 410 415

Lys Ser Arg Trp Gln Gln Gly Asn Val Phe Ser Cys Ser Val Met His  
 420 425 430

Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Pro  
 435 440 445

Gly Lys  
 450

<210> 42  
 <211> 444  
 <212> PRT  
 <213> Mus musculus

<400> 42  
 Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Thr  
 1 5 10 15

Ser Val Lys Met Pro Cys Lys Ala Ser Gly Tyr Ile Phe Thr Asp Tyr  
 20 25 30

Val Ile Ser Trp Val Lys Gln Arg Thr Gly Gln Gly Leu Glu Trp Ile  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Asn Thr Ala Tyr  
65 70 75 80

Met Gln Leu Ser Ser Val Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Ser Val Thr Val Ser Ser Ala Lys Thr Thr Pro Pro Ser Val  
115 120 125

Tyr Pro Leu Ala Pro Gly Ser Ala Ala Gln Thr Asn Ser Met Val Thr  
130 135 140

Leu Gly Cys Leu Val Lys Gly Tyr Phe Pro Glu Pro Val Thr Val Thr  
145 150 155 160

Trp Asn Ser Gly Ser Leu Ser Ser Gly Val His Thr Phe Pro Ala Val  
165 170 175

Leu Gln Ser Asp Leu Tyr Thr Leu Ser Ser Ser Val Thr Val Pro Ser  
180 185 190

Ser Thr Trp Pro Ser Gln Thr Val Thr Cys Asn Val Ala His Pro Ala  
195 200 205

Ser Ser Thr Lys Val Asp Lys Lys Ile Val Pro Arg Asp Cys Gly Cys  
210 215 220

Lys Pro Cys Ile Cys Thr Val Pro Glu Val Ser Ser Val Phe Ile Phe  
225 230 235 240

Pro Pro Lys Pro Lys Asp Val Leu Thr Ile Thr Leu Thr Pro Lys Val  
245 250 255

Thr Cys Val Val Val Asp Ile Ser Lys Asp Asp Pro Glu Val Gln Phe  
260 265 270

Ser Trp Phe Val Asp Asp Val Glu Val His Thr Ala Gln Thr Lys Pro  
275 280 285

Arg Glu Glu Gln Ile Asn Ser Thr Phe Arg Ser Val Ser Glu Leu Pro  
290 295 300

Ile Met His Gln Asp Trp Leu Asn Gly Lys Glu Phe Lys Cys Arg Val  
305 310 315 320

Asn Ser Ala Ala Phe Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Thr  
325 330 335

Lys Gly Arg Pro Lys Ala Pro Gln Val Tyr Thr Ile Pro Pro Pro Lys  
340 345 350

Glu Gln Met Ala Lys Asp Lys Val Ser Leu Thr Cys Met Ile Thr Asn  
355 360 365

Phe Phe Pro Glu Asp Ile Thr Val Glu Trp Gln Trp Asn Gly Gln Pro  
370 375 380

Ala Glu Asn Tyr Lys Asn Thr Gln Pro Ile Met Asp Thr Asp Gly Ser  
385 390 395 400

Tyr Phe Val Tyr Ser Lys Leu Asn Val Gln Lys Ser Asn Trp Glu Ala  
405 410 415

Gly Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu His Asn His  
420 425 430

His Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys  
435 440

<210> 43

<211> 447

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 43

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
115 120 125

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala  
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
180 185 190

Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys  
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro  
 210 215 220

Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val  
 225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr  
 245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu  
 260 265 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys  
 275 280 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser  
 290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys  
 305 310 315 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile  
 325 330 335

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro  
 340 345 350

Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu  
 355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn  
 370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser  
 385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg  
 405 410 415

Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu

420

425

430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys  
 435 440 445

&lt;210&gt; 44

&lt;211&gt; 447

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
 polypeptide

&lt;400&gt; 44

Gln Val Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys Pro Gly Ser  
 1 5 10 15

Ser Val Lys Val Pro Cys Lys Ala Ser Gly Tyr Ile Phe Thr Asp Tyr  
 20 25 30

Val Ile Ser Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile  
 35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys  
 85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
 115 120 125

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala  
 130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
 145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
180 185 190

Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys  
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro  
210 215 220

Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val  
225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr  
245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu  
260 265 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys  
275 280 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser  
290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys  
305 310 315 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile  
325 330 335

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro  
340 345 350

Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu  
355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn

370

375

380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser  
 385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg  
 405 410 415

Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu  
 420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys  
 435 440 445

<210> 45

<211> 447

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 polypeptide

<400> 45

Gln Val Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys Pro Gly Ser  
 1 5 10 15

Ser Val Lys Val Pro Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
 20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
 35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
115 120 125

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala  
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
180 185 190

Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys  
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro  
210 215 220

Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val  
225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr  
245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu  
260 265 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys  
275 280 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser  
290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys  
305 310 315 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile

325

330

335

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro  
 340 345 350

Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu  
 355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn  
 370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser  
 385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg  
 405 410 415

Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu  
 420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys  
 435 440 445

&lt;210&gt; 46

&lt;211&gt; 447

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
 polypeptide

&lt;400&gt; 46

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Asp Tyr  
 20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
 35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
115 120 125

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala  
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
180 185 190

Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys  
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro  
210 215 220

Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val  
225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr  
245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu  
260 265 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys

275

280

285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser  
 290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys  
 305 310 315 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile  
 325 330 335

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro  
 340 345 350

Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu  
 355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn  
 370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser  
 385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg  
 405 410 415

Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu  
 420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys  
 435 440 445

&lt;210&gt; 47

&lt;211&gt; 447

&lt;212&gt; PRT

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
 polypeptide

&lt;400&gt; 47

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Ile Phe Ser Asp Tyr  
20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
115 120 125

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala  
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
180 185 190

Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys  
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro  
210 215 220

Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 225 |     | 230 |     | 235 |     | 240 |     |     |     |     |     |     |     |     |     |
| Phe | Leu | Phe | Pro | Pro | Lys | Pro | Lys | Asp | Thr | Leu | Met | Ile | Ser | Arg | Thr |
|     |     |     |     | 245 |     |     |     |     | 250 |     |     |     |     | 255 |     |
| Pro | Glu | Val | Thr | Cys | Val | Val | Val | Asp | Val | Ser | Gln | Glu | Asp | Pro | Glu |
|     |     |     | 260 |     |     |     |     | 265 |     |     |     |     | 270 |     |     |
| Val | Gln | Phe | Asn | Trp | Tyr | Val | Asp | Gly | Val | Glu | Val | His | Asn | Ala | Lys |
|     |     | 275 |     |     |     |     | 280 |     |     |     |     | 285 |     |     |     |
| Thr | Lys | Pro | Arg | Glu | Glu | Gln | Phe | Asn | Ser | Thr | Tyr | Arg | Val | Val | Ser |
|     | 290 |     |     |     |     | 295 |     |     |     |     | 300 |     |     |     |     |
| Val | Leu | Thr | Val | Leu | His | Gln | Asp | Trp | Leu | Asn | Gly | Lys | Glu | Tyr | Lys |
| 305 |     |     |     |     | 310 |     |     |     |     | 315 |     |     |     |     | 320 |
| Cys | Lys | Val | Ser | Asn | Lys | Gly | Leu | Pro | Ser | Ser | Ile | Glu | Lys | Thr | Ile |
|     |     |     |     | 325 |     |     |     |     | 330 |     |     |     |     | 335 |     |
| Ser | Lys | Ala | Lys | Gly | Gln | Pro | Arg | Glu | Pro | Gln | Val | Tyr | Thr | Leu | Pro |
|     |     |     | 340 |     |     |     |     | 345 |     |     |     |     | 350 |     |     |
| Pro | Ser | Gln | Glu | Glu | Met | Thr | Lys | Asn | Gln | Val | Ser | Leu | Thr | Cys | Leu |
|     |     | 355 |     |     |     |     | 360 |     |     |     |     | 365 |     |     |     |
| Val | Lys | Gly | Phe | Tyr | Pro | Ser | Asp | Ile | Ala | Val | Glu | Trp | Glu | Ser | Asn |
|     | 370 |     |     |     |     | 375 |     |     |     |     | 380 |     |     |     |     |
| Gly | Gln | Pro | Glu | Asn | Asn | Tyr | Lys | Thr | Thr | Pro | Pro | Val | Leu | Asp | Ser |
| 385 |     |     |     |     | 390 |     |     |     |     | 395 |     |     |     | 400 |     |
| Asp | Gly | Ser | Phe | Phe | Leu | Tyr | Ser | Arg | Leu | Thr | Val | Asp | Lys | Ser | Arg |
|     |     |     |     | 405 |     |     |     |     | 410 |     |     |     |     | 415 |     |
| Trp | Gln | Glu | Gly | Asn | Val | Phe | Ser | Cys | Ser | Val | Met | His | Glu | Ala | Leu |
|     |     |     | 420 |     |     |     |     | 425 |     |     |     |     | 430 |     |     |
| His | Asn | His | Tyr | Thr | Gln | Lys | Ser | Leu | Ser | Leu | Ser | Leu | Gly | Lys |     |
|     |     | 435 |     |     |     |     | 440 |     |     |     |     | 445 |     |     |     |

<210> 48  
<211> 447  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 48

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Thr Asp Tyr  
20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
115 120 125

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala  
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro

|                                                                 |     |         |
|-----------------------------------------------------------------|-----|---------|
| 180                                                             | 185 | 190     |
| Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys |     |         |
| 195                                                             | 200 | 205     |
| Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro |     |         |
| 210                                                             | 215 | 220     |
| Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val |     |         |
| 225                                                             | 230 | 235 240 |
| Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr |     |         |
|                                                                 | 245 | 250 255 |
| Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu |     |         |
|                                                                 | 260 | 265 270 |
| Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys |     |         |
|                                                                 | 275 | 280 285 |
| Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser |     |         |
|                                                                 | 290 | 295 300 |
| Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys |     |         |
| 305                                                             | 310 | 315 320 |
| Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile |     |         |
|                                                                 | 325 | 330 335 |
| Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro |     |         |
|                                                                 | 340 | 345 350 |
| Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu |     |         |
|                                                                 | 355 | 360 365 |
| Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn |     |         |
|                                                                 | 370 | 375 380 |
| Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser |     |         |
| 385                                                             | 390 | 395 400 |

Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg  
 405 410 415

Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu  
 420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys  
 435 440 445

<210> 49  
 <211> 447  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 polypeptide

<400> 49  
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
 20 25 30

Val Ile Ser Trp Val Lys Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
 35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
 115 120 125

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala

130

135

140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
 145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
 165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
 180 185 190

Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys  
 195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro  
 210 215 220

Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val  
 225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr  
 245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu  
 260 265 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys  
 275 280 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser  
 290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys  
 305 310 315 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile  
 325 330 335

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro  
 340 345 350

Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu  
 355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn  
 370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser  
 385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg  
 405 410 415

Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu  
 420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys  
 435 440 445

<210> 50  
 <211> 447  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic  
 polypeptide

<400> 50  
 Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
 20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Ile  
 35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys

85

90

95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
 115 120 125

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala  
 130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
 145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
 165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
 180 185 190

Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys  
 195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro  
 210 215 220

Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val  
 225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr  
 245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu  
 260 265 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys  
 275 280 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser  
 290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys  
305 310 315 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile  
325 330 335

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro  
340 345 350

Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu  
355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn  
370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser  
385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg  
405 410 415

Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu  
420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys  
435 440 445

<210> 51

<211> 447

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 51

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met

35

40

45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Lys Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
 115 120 125

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala  
 130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
 145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
 165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
 180 185 190

Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys  
 195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro  
 210 215 220

Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val  
 225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr  
 245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu  
260 265 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys  
275 280 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser  
290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys  
305 310 315 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile  
325 330 335

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro  
340 345 350

Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu  
355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn  
370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser  
385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg  
405 410 415

Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu  
420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys  
435 440 445

<210> 52

<211> 447

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic

# polypeptide

<400> 52

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Arg Ala Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
115 120 125

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala  
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
180 185 190

Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys  
195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro  
 210 215 220

Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val  
 225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr  
 245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu  
 260 265 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys  
 275 280 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser  
 290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys  
 305 310 315 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile  
 325 330 335

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro  
 340 345 350

Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu  
 355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn  
 370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser  
 385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg  
 405 410 415

Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu  
 420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys  
435 440 445

<210> 53

<211> 447

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 53

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Arg Val Thr Leu Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
115 120 125

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala  
130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
 165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
 180 185 190

Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys  
 195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro  
 210 215 220

Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val  
 225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr  
 245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu  
 260 265 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys  
 275 280 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser  
 290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys  
 305 310 315 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile  
 325 330 335

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro  
 340 345 350

Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu  
 355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn  
 370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser  
 385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg  
 405 410 415

Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu  
 420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys  
 435 440 445

<210> 54

<211> 447

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 polypeptide

<400> 54

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Asp Tyr  
 20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
 35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Phe Cys  
 85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
 115 120 125

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala  
 130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
 145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
 165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
 180 185 190

Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys  
 195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro  
 210 215 220

Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val  
 225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr  
 245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu  
 260 265 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys  
 275 280 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser  
 290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys  
 305 310 315 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile  
 325 330 335

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro  
 340 345 350

Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu  
 355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn  
 370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser  
 385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg  
 405 410 415

Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu  
 420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys  
 435 440 445

<210> 55

<211> 447

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 polypeptide

<400> 55

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ile Phe Ser Asp Tyr  
 20 25 30

Val Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
 35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
 85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
 100 105 110

Gly Thr Leu Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
 115 120 125

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala  
 130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
 145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
 165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
 180 185 190

Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys  
 195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro  
 210 215 220

Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val  
 225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr  
 245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu  
 260 265 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys  
 275 280 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser  
 290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys  
 305 310 315 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile  
 325 330 335

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro  
 340 345 350

Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu  
 355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn  
 370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser  
 385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg  
 405 410 415

Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu  
 420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys  
 435 440 445

<210> 56

<211> 447

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
 polypeptide

<400> 56

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Thr  
 1 5 10 15

Ser Val Lys Met Pro Cys Lys Ala Ser Gly Tyr Ile Phe Thr Asp Tyr  
 20 25 30

Val Ile Ser Trp Val Lys Gln Arg Thr Gly Gln Gly Leu Glu Trp Ile  
 35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
 50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Asn Thr Ala Tyr  
 65 70 75 80

Met Gln Leu Ser Ser Val Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys  
 85 90 95

Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln  
 100 105 110

Gly Thr Ser Val Thr Val Ser Ser Ala Ser Thr Lys Gly Pro Ser Val  
 115 120 125

Phe Pro Leu Ala Pro Cys Ser Arg Ser Thr Ser Glu Ser Thr Ala Ala  
 130 135 140

Leu Gly Cys Leu Val Lys Asp Tyr Phe Pro Glu Pro Val Thr Val Ser  
 145 150 155 160

Trp Asn Ser Gly Ala Leu Thr Ser Gly Val His Thr Phe Pro Ala Val  
 165 170 175

Leu Gln Ser Ser Gly Leu Tyr Ser Leu Ser Ser Val Val Thr Val Pro  
 180 185 190

Ser Ser Ser Leu Gly Thr Lys Thr Tyr Thr Cys Asn Val Asp His Lys  
 195 200 205

Pro Ser Asn Thr Lys Val Asp Lys Arg Val Glu Ser Lys Tyr Gly Pro  
 210 215 220

Pro Cys Pro Pro Cys Pro Ala Pro Glu Phe Leu Gly Gly Pro Ser Val  
 225 230 235 240

Phe Leu Phe Pro Pro Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr  
245 250 255

Pro Glu Val Thr Cys Val Val Val Asp Val Ser Gln Glu Asp Pro Glu  
260 265 270

Val Gln Phe Asn Trp Tyr Val Asp Gly Val Glu Val His Asn Ala Lys  
275 280 285

Thr Lys Pro Arg Glu Glu Gln Phe Asn Ser Thr Tyr Arg Val Val Ser  
290 295 300

Val Leu Thr Val Leu His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys  
305 310 315 320

Cys Lys Val Ser Asn Lys Gly Leu Pro Ser Ser Ile Glu Lys Thr Ile  
325 330 335

Ser Lys Ala Lys Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro  
340 345 350

Pro Ser Gln Glu Glu Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu  
355 360 365

Val Lys Gly Phe Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn  
370 375 380

Gly Gln Pro Glu Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser  
385 390 395 400

Asp Gly Ser Phe Phe Leu Tyr Ser Arg Leu Thr Val Asp Lys Ser Arg  
405 410 415

Trp Gln Glu Gly Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu  
420 425 430

His Asn His Tyr Thr Gln Lys Ser Leu Ser Leu Ser Leu Gly Lys  
435 440 445

<210> 57  
<211> 219

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 57

Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly  
1 5 10 15

Glu Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser  
20 25 30

Arg Thr Arg Lys Asn Tyr Leu Ala Trp Tyr Leu Gln Lys Pro Gly Gln  
35 40 45

Ser Pro Gln Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
50 55 60

Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys  
65 70 75 80

Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Lys Gln  
85 90 95

Ser Phe Tyr Leu Arg Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys  
100 105 110

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu  
115 120 125

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe  
130 135 140

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln  
145 150 155 160

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser  
165 170 175

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu  
180 185 190

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser  
195 200 205

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys  
210 215

<210> 58

<211> 219

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 58

Asp Ile Val Met Ser Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly  
1 5 10 15

Glu Pro Ala Ser Ile Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser  
20 25 30

Arg Thr Arg Lys Asn Tyr Leu Ala Trp Tyr Leu Gln Lys Pro Gly Gln  
35 40 45

Ser Pro Gln Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
50 55 60

Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys  
65 70 75 80

Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Lys Gln  
85 90 95

Ser Phe Tyr Leu Arg Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys  
100 105 110

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu  
115 120 125

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe  
130 135 140

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln  
 145 150 155 160

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser  
 165 170 175

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu  
 180 185 190

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser  
 195 200 205

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys  
 210 215

<210> 59  
 <211> 219  
 <212> PRT  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic polypeptide

<400> 59  
 Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala Val Ser Ala Gly  
 1 5 10 15

Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser  
 20 25 30

Arg Thr Arg Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln  
 35 40 45

Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
 50 55 60

Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
 65 70 75 80

Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr Tyr Cys Lys Gln  
 85 90 95

Ser Phe Tyr Leu Arg Thr Phe Gly Gly Gly Thr Lys Leu Asp Ile Lys

100

105

110

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu  
 115 120 125

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe  
 130 135 140

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln  
 145 150 155 160

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser  
 165 170 175

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu  
 180 185 190

Lys His Lys Val Tyr Ala Cys Glu Val Thr His Gln Gly Leu Ser Ser  
 195 200 205

Pro Val Thr Lys Ser Phe Asn Arg Gly Glu Cys  
 210 215

&lt;210&gt; 60

&lt;211&gt; 120

&lt;212&gt; PRT

&lt;213&gt; Mus musculus

&lt;400&gt; 60

Met Asp Ser Gln Ala Gln Val Leu Ile Leu Leu Leu Leu Trp Val Ser  
 1 5 10 15

Gly Thr Cys Gly Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala  
 20 25 30

Val Ser Ala Gly Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser  
 35 40 45

Leu Leu Asn Ser Arg Thr Arg Lys Asn Tyr Leu Ala Trp Tyr Gln Gln  
 50 55 60

Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg  
 65 70 75 80

Glu Ser Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp  
85 90 95

Phe Thr Leu Thr Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr  
100 105 110

Tyr Cys Lys Gln Ser Tyr Asn Leu  
115 120

<210> 61  
<211> 101  
<212> PRT  
<213> Mus musculus

<400> 61  
Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ser Val Ser Ala Gly  
1 5 10 15

Asp Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser  
20 25 30

Arg Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Trp Gln  
35 40 45

Pro Pro Lys Leu Leu Ile Tyr Gly Ala Ser Thr Arg Glu Ser Gly Val  
50 55 60

Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
65 70 75 80

Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr Tyr Cys Gln Asn  
85 90 95

Asp Tyr Ser Tyr Pro  
100

<210> 62  
<211> 121  
<212> PRT  
<213> Mus musculus

<400> 62  
Met Glu Ser Gln Thr Gln Val Leu Met Ser Leu Leu Phe Trp Val Ser

1                      5                      10                      15  
 Gly Thr Cys Gly Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Thr  
                     20                      25                      30  
 Val Thr Ala Gly Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser  
                     35                      40                      45  
 Leu Leu Asn Ser Gly Asn Gln Lys Asn Tyr Leu Thr Trp Tyr Gln Gln  
                     50                      55                      60  
 Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg  
 65                      70                      75                      80  
 Glu Ser Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp  
                     85                      90                      95  
 Phe Thr Leu Thr Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr  
                     100                      105                      110  
 Tyr Cys Gln Asn Asp Tyr Ser Tyr Pro  
                     115                      120

<210> 63  
 <211> 121  
 <212> PRT  
 <213> Mus musculus

<400> 63  
 Met Asp Ser Gln Ala Gln Val Leu Met Leu Leu Leu Leu Trp Val Ser  
 1                      5                      10                      15

Gly Thr Cys Gly Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala  
                     20                      25                      30

Val Ser Val Gly Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser  
                     35                      40                      45

Leu Leu Tyr Ser Ser Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln  
                     50                      55                      60

Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg  
 65                      70                      75                      80

Glu Ser Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp  
85 90 95

Phe Thr Leu Thr Ile Ser Ser Val Lys Ala Glu Asp Leu Ala Val Tyr  
100 105 110

Tyr Cys Gln Gln Tyr Tyr Ser Tyr Pro  
115 120

<210> 64  
<211> 121  
<212> PRT  
<213> Mus musculus

<400> 64  
Met Glu Ser Gln Thr Gln Val Leu Ile Ser Leu Leu Phe Trp Val Ser  
1 5 10 15

Gly Thr Cys Gly Asp Ile Val Met Thr Gln Ser Pro Ser Ser Leu Ser  
20 25 30

Val Ser Ala Gly Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser  
35 40 45

Leu Leu Asn Ser Gly Asn Gln Lys Asn Tyr Leu Ala Trp Tyr Gln Gln  
50 55 60

Lys Pro Gly Gln Pro Pro Lys Leu Leu Ile Tyr Gly Ala Ser Thr Arg  
65 70 75 80

Glu Ser Gly Val Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp  
85 90 95

Phe Thr Leu Thr Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr  
100 105 110

Tyr Cys Gln Asn Asp His Ser Tyr Pro  
115 120

<210> 65  
<211> 126  
<212> PRT

<213> Homo sapiens

<400> 65

Gln Leu Leu Gly Leu Leu Met Leu Trp Val Ser Gly Ser Ser Gly Asp  
1 5 10 15

Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly Glu  
20 25 30

Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ile Asn  
35 40 45

Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro  
50 55 60

Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser Gly Val Pro Asp  
65 70 75 80

Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser  
85 90 95

Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ala Leu  
100 105 110

Gln Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys  
115 120 125

<210> 66

<211> 98

<212> PRT

<213> Mus musculus

<400> 66

Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Ala Arg Pro Gly Ala  
1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Ser Tyr  
20 25 30

Gly Ile Ser Trp Val Lys Gln Arg Thr Gly Gln Gly Leu Glu Trp Ile  
35 40 45

Gly Glu Ile Tyr Pro Arg Ser Gly Asn Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Arg Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys  
85 90 95

Ala Arg

<210> 67  
<211> 98  
<212> PRT  
<213> Mus musculus

<400> 67  
Gln Val Gln Leu Lys Gln Ser Gly Ala Glu Leu Val Lys Pro Gly Ala  
1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr  
20 25 30

Tyr Ile Asn Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile  
35 40 45

Gly Lys Ile Gly Pro Gly Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr  
65 70 75 80

Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys  
85 90 95

Ala Arg

<210> 68  
<211> 97  
<212> PRT  
<213> Mus musculus

<400> 68  
Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala Ser

|     |     |     |     |
|-----|-----|-----|-----|
| 1   | 5   | 10  | 15  |
| Val | Lys | Met | Ser |
|     |     | 20  |     |
|     | Cys | Lys | Ala |
|     |     |     | Ser |
|     |     | 25  |     |
|     | Gly | Tyr | Thr |
|     |     |     | Phe |
|     |     |     | Thr |
|     |     |     | Asp |
|     |     |     | 30  |
|     |     |     | Tyr |
|     |     |     | Tyr |
| Met | His | Trp | Val |
|     |     | 35  |     |
|     | Lys | Gln | Lys |
|     |     |     | Pro |
|     |     |     | 40  |
|     | Gly | Lys | Gly |
|     |     |     | Leu |
|     |     |     | 45  |
|     | Glu | Trp | Ile |
|     |     |     | Gly |
| Glu | Ile | Tyr | Pro |
|     |     |     | 50  |
|     | Gly | Ser | Gly |
|     |     |     | 55  |
|     | Asn | Thr | Tyr |
|     |     |     | Tyr |
|     |     |     | 60  |
|     | Asn | Glu | Lys |
|     |     |     | Phe |
|     |     |     | Lys |
| Gly | Lys | Ala | Thr |
|     |     |     | 65  |
|     | Leu | Thr | Ala |
|     |     |     | 70  |
|     | Asp | Thr | Ser |
|     |     |     | 75  |
|     | Ser | Ser | Ser |
|     |     |     | Thr |
|     |     |     | Ala |
|     |     |     | Tyr |
|     |     |     | 80  |
|     | Met |     |     |
| Gln | Leu | Ser | Ser |
|     |     |     | 85  |
|     | Leu | Thr | Ser |
|     |     |     | Glu |
|     |     |     | 90  |
|     | Asp | Ser | Ala |
|     |     |     | Val |
|     |     |     | Tyr |
|     |     |     | Phe |
|     |     |     | 95  |
|     | Cys | Ala |     |

Arg

<210> 69  
 <211> 98  
 <212> PRT  
 <213> Mus musculus

|                                                                 |
|-----------------------------------------------------------------|
| <400> 69                                                        |
| Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala |
| 1 5 10 15                                                       |
| Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr |
| 20 25 30                                                        |
| Tyr Ile Asn Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile |
| 35 40 45                                                        |
| Gly Trp Ile Phe Pro Gly Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe |
| 50 55 60                                                        |
| Lys Gly Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr |
| 65 70 75 80                                                     |
| Met Leu Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys |
| 85 90 95                                                        |

Ala Arg

<210> 70

<211> 98

<212> PRT

<213> Mus musculus

<400> 70

Gln Val Gln Leu Gln Gln Ser Gly Ala Glu Leu Val Arg Pro Gly Thr  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Ala Phe Thr Asn Tyr  
20 25 30

Leu Ile Glu Trp Val Lys Gln Arg Pro Gly Gln Gly Leu Glu Trp Ile  
35 40 45

Gly Val Ile Asn Pro Gly Ser Gly Gly Thr Asn Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Asn Thr Ala Tyr  
65 70 75 80

Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys  
85 90 95

Ala Arg

<210> 71

<211> 139

<212> PRT

<213> Homo sapiens

<400> 71

Met Asp Trp Thr Trp Arg Phe Leu Phe Val Val Ala Ala Val Thr Gly  
1 5 10 15

Val Gln Ser Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys  
20 25 30

Pro Gly Ser Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe

35

40

45

Ser Ser Tyr Ala Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu  
 50 55 60

Glu Trp Met Gly Gly Ile Ile Pro Ile Phe Gly Thr Ala Asn Tyr Ala  
 65 70 75 80

Gln Lys Phe Gln Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser  
 85 90 95

Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val  
 100 105 110

Tyr Tyr Cys Ala Arg Gly Ser Thr Val Thr Thr Gly Asp Phe Asp Tyr  
 115 120 125

Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser  
 130 135

&lt;210&gt; 72

&lt;211&gt; 764

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
 polynucleotide

&lt;400&gt; 72

ggctgctttg catagacgcc tccagcctag cccagctgct cagaatttat aaaccagtat 60

gaactgagaa gcatcagaca ggcagtggga gcaagatgga ttcacaggcc caggttctta 120

tattgctgct gctatgggta tctggtgaga aatttaaaag tattatcatt tcagagttaa 180

acctttttat ataaggaatt tataatatgt gcaagtgtgt aatatttctt ccataataac 240

tctctgacaa tatgaaatta caaagacctt tgacaaattt caactgttat aataatctat 300

acttgtgtat gtatgcatgt tcactttcta cttatttcag gtacctgtgg ggacattgtg 360

atgtcacagt ctccatcctc cctggctgtg tcagcaggag agaaggtcac tatgagctgc 420

aaatccagtc agagtctgct caacagtaga acccgaaaga actacttggc ttggtaccag 480

cagaaaccag ggcagtctcc taaactgctg atctactggg catccactag ggaatctggg 540

|                                                                    |     |
|--------------------------------------------------------------------|-----|
| gtccctgata gcttcacagg cagtggatct gggacagatt tcactctcac catcagcagt  | 600 |
| gtgcaggctg aagacctggc agtttattac tgcaagcaat cttataatct tcccacagtg  | 660 |
| cttcagtctc ctacacaaac ctccctttaga gtttcaccag ctgcctgcat aacacacagc | 720 |
| catgggtctg cacacttcct ctttctacaa gagagccagc atgc                   | 764 |

<210> 73

<211> 302

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 73

|                                                                    |     |
|--------------------------------------------------------------------|-----|
| gacattgtga tgacacagtc tccatcctcc ctgagtgtgt cagcaggaga taaggctcact | 60  |
| atgagctgca agtccagtca gagtctgtta aacagtagaa accaaaagaa ctacttggcc  | 120 |
| tggtagcagc agaaaccatg gcagcctcct aaactgctga tctacggggc atccactagg  | 180 |
| gaatctgggg tccctgatcg cttcacaggc agtggatctg gaacagattt cactctcacc  | 240 |
| atcagcagtg tgcaggctga agacctggca gtttattact gtcagaatga ttatagttat  | 300 |
| cc                                                                 | 302 |

<210> 74

<211> 720

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 74

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| tttctgtcag ctttgcattg gttcctccag cccagcccac cttctcagaa ttataaaacc | 60  |
| aggcctttgc attgtgactg atctacatct gaaaggcagg tggagcaaga tggaatcaca | 120 |
| gactcaggtc ctcatgtccc tgctgttctg ggtatctggc aagaaattta aagtattaaa | 180 |
| accttttcaa agtttcatct ttgtaataag caatttataa tatatgccag tatatagtat | 240 |
| ttcttacaca ataatgtttg atattatgac attttaagga catttaaatg acaaattaca | 300 |
| actgtaatta taatacatat atattagtgt agctatgcat tttcactgtc tattcattat | 360 |
| ttcaggtagc tgtggggaca ttgtgatgac acagtctcca tcctccctga ctgtgacagc | 420 |

|                                                                     |     |
|---------------------------------------------------------------------|-----|
| aggagagaag gtcactatga gctgcaagtc cagtcagagt ctgttaaaca gtggaaatca   | 480 |
| aaagaactac ttgacctggt accagcagaa accagggcag cctcctaaac tgttgatcta   | 540 |
| ctgggcatcc actaggggaat ctgggggtccc tgatcgcttc acaggcagtg gatctggaac | 600 |
| agatttcact ctcacatca gcagtgtgca ggctgaagac ctggcagttt attactgtca    | 660 |
| gaatgattat agttatcctc ccacagtgc ttcagcctcct acacaaacct ccttaagagt   | 720 |

<210> 75

<211> 856

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 75

|                                                                     |     |
|---------------------------------------------------------------------|-----|
| agtgatccct cttgctctct gtgatggcat ttttgttgat tgacaccatc cactctcaca   | 60  |
| cacactgccc aggcatattgc ttttgtatatt gctggctgct ttgcatagac ccctccagcc | 120 |
| taaccagct gtcagaatt tataaaccag tatgaactga gcagcatcag acaggcaggg     | 180 |
| gaagcaagat ggattcacag gccaggttc ttatgttact gctgctatgg gtatctggtg    | 240 |
| agaaatttaa aagtattatc atttcagagt tacacctttt tatataagaa atttatacta   | 300 |
| tgtgcaagtg tgtaatatta cttccataat aactctgaca atatgacatt acaaagacct   | 360 |
| ttgacaaatt tcaactgtta taataatcta tttgtgtatg tattcatgtt cactttctac   | 420 |
| ttatttcagg tacctgtggg gacattgtga tgtcacagtc tccatcctcc ctagctgtgt   | 480 |
| cagttggaga gaaggttact atgagctgca agtccagtc gagcctttta tatagtagca    | 540 |
| atcaaaaagaa ctacttgcc tgggtaccagc agaaaccagg gcagtctcct aaactgctga  | 600 |
| tttactgggc atccactagg gaatctgggg tccctgatcg cttcacaggc agtggatctg   | 660 |
| ggacagattt cactctcacc atcagcagtg tgaaggctga agacctggca gtttattact   | 720 |
| gtcagcaata ttatagctat cctcccacag tgcttcagcc tcctacacaa acctccttga   | 780 |
| gaatttcacc agctgcctgc ataacacaca gtccttggtc tgaacacttc ctctttcttc   | 840 |
| atgaaagcca gcatgc                                                   | 856 |

<210> 76

<211> 707

<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 76

|                                                                    |     |
|--------------------------------------------------------------------|-----|
| ctgtcagctt tgcattgggt cctccagccc agcccagctg ctgagaattt ataaaccagg  | 60  |
| cctttgcatt gtgactgatc tacatctgaa aggcaggtgg agcaagatgg aatcacagac  | 120 |
| tcaggctctc atctccttgc tgttctgggt atctggtaag aaatttaaag tagtaaaacc  | 180 |
| ttttcaaagt ttcatctttg taataagcaa ttacaatat atgccagtgt atagtatttc   | 240 |
| ttacacaatg atgttttgat attatgacat tttaaggaca tttaaataac aaattacaac  | 300 |
| tgttggtata atatatatta gtgtagatat gcattttcac tgtctattca ttatttcagg  | 360 |
| tacctgtggg gacattgtga tgacacagtc tccatcctcc ctgagtgtgt cagcaggaga  | 420 |
| gaaggctact atgagctgca agtccagtca gagtctgtta aacagtggaa atcaaaagaa  | 480 |
| ctacttggcc tgggtaccagc agaaaccagg gcagcctcct aaactgttga tctacggggc | 540 |
| atccactagg gaatctgggg tccctgatcg cttcacaggc agtggatctg gaaccgattt  | 600 |
| cactcttacc atcagcagtg tgcaggctga agacctggca gtttattact gtcagaatga  | 660 |
| tcatagttat cctcccacag tgcttcagcc tcctacacaa acctcct                | 707 |

<210> 77

<211> 380

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 77

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| ctcagctcct ggggctgcta atgctctggg tctctggatc cagtggggat attgtgatga | 60  |
| ctcagctctc actctccctg cccgtcacc ctggagagcc ggccctcatc tcctgcaggt  | 120 |
| ctagtcatag cctcctgcat attaatggat acaactattt ggattggtac ctgcagaagc | 180 |
| cagggcagtc tccacagctc ctgatctatt tgggttctaa tcgggcctcc ggggtccctg | 240 |
| acaggttcac tggcagtggg tcaggcacag attttacact gaaaatcagc agagtggagg | 300 |
| ctgaggatgt tggggtttat tactgcatgc aagctctaca accgtggacg ttcggccaag | 360 |

ggaccaaggt ggaaatcaaa 380

<210> 78

<211> 294

<212> DNA

<213> Mus musculus

<400> 78

caggttcagc tgcagcagtc tggagctgag ctggcgaggc ctggggcttc agtgaagctg 60

tcctgcaagg cttctggcta caccttcaca agctatggta taagctgggt gaagcagaga 120

actggacagg gccttgagtg gattggagag atttatccta gaagtggtaa tacttactac 180

aatgagaagt tcaagggcaa ggccacactg actgcagaca aatcctccag cacagcgtac 240

atggagctcc gcagcctgac atctgaggac tctgcggtct atttctgtgc aaga 294

<210> 79

<211> 294

<212> DNA

<213> Mus musculus

<400> 79

caggtccagc tgaagcagtc tggagctgag ctggtgaagc ctggggcttc agtgaagata 60

tcctgcaagg cttctggcta caccttcact gactactata taaactgggt gaagcagagg 120

cctggacagg gccttgagtg gattggaaag attggtcctg gaagtggtag tacttactac 180

aatgagaagt tcaagggcaa ggccacactg actgcagaca aatcctccag cacagcctac 240

atgcagctca gcagcctgac atctgaggac tctgcagtct atttctgtgc aaga 294

<210> 80

<211> 294

<212> DNA

<213> Mus musculus

<400> 80

taggtccagc tgcagcagtc tggacctgag ctggtaaagc ctggggcttc agtgaagatg 60

tcctgcaagg cttctggata cacattcact gactactaca tgcactgggt gaagcagaag 120

cctgggaagg gccttgagtg gattggagag atttatcctg gaagtggtaa tacttactac 180

aatgagaagt tcaagggcaa ggccacactg actgcagaca catcctccag cacagcctac 240

atgcagctca gcagcctgac atctgaggac tctgcagtct atttctgtgc aaga 294

<210> 81

<211> 294  
 <212> DNA  
 <213> Mus musculus

<400> 81  
 caggtccagc tacagcagtc tggacctgag ctggtgaagc ctggggcttc agtgaagata 60  
 tcctgcaagg cttctggcta caccttcact gactactata taaactgggt gaagcagagg 120  
 cctggacagg gacttgagt gattggatgg atttttcctg gaagtggtag tacttactac 180  
 aatgagaagt tcaagggcaa ggccacactt actgtagaca aatcctccag cacagcctac 240  
 atgttgctca gcagcctgac ctctgaggac tctgcggtct atttctgtgc aaga 294

<210> 82  
 <211> 294  
 <212> DNA  
 <213> Mus musculus

<400> 82  
 caggtccagc tgcagcagtc tggagctgag ctggtaaggc ctgggacttc agtgaagggtg 60  
 tcctgcaagg cttctggata cgccttcact aattacttga tagagtgggt aaagcagagg 120  
 cctggacagg gccttgagt gattggagtg attaatcctg gaagtgggtg tactaactac 180  
 aatgagaagt tcaagggcaa ggcaacactg actgcagaca aatcctccaa cacagcctac 240  
 atgcagctca gcagcctgac atctgaggac tctgcggtct atttctgtgc aaga 294

<210> 83  
 <211> 513  
 <212> DNA  
 <213> Homo sapiens

<400> 83  
 gttcctcacc atggactgga cctggagggtt cctctttgtg gtggcagcag ttacaggtaa 60  
 ggggcttcct agtcctaagg ctgaggaagg gatcctgggt tagttaaaga ggattttatt 120  
 caccctgtg tcctctccac aggtgtccag tcccagggtgc agctgggtgca gtctggggct 180  
 gaggtgaaga agcctgggtc ctcggtgaag gtctcctgca aggcttctgg aggcaccttc 240  
 agcagctatg ctatcagctg ggtgcgacag gccctggac aagggttga gtggatggga 300  
 gggatcatcc ctatctttgg tacagcaaac tacgcacaga agttccaggg cagagtcacg 360  
 attaccgagg acaaatccac gagcacagcc tacatggagc tgagcagcct gagatctgag 420  
 gacacggccg tgtattactg tgcgagaggg agtacggtga ctacgggaga ttttgactac 480

|                                                                        |     |
|------------------------------------------------------------------------|-----|
| tggggccagg gaaccctggt caccgtctcc tca                                   | 513 |
|                                                                        |     |
| <210> 84                                                               |     |
| <211> 15                                                               |     |
| <212> DNA                                                              |     |
| <213> Artificial Sequence                                              |     |
| <220>                                                                  |     |
| <223> Description of Artificial Sequence: Synthetic<br>oligonucleotide |     |
|                                                                        |     |
| <400> 84                                                               |     |
| gattacgtga tctct                                                       | 15  |
|                                                                        |     |
| <210> 85                                                               |     |
| <211> 51                                                               |     |
| <212> DNA                                                              |     |
| <213> Artificial Sequence                                              |     |
| <220>                                                                  |     |
| <223> Description of Artificial Sequence: Synthetic<br>oligonucleotide |     |
|                                                                        |     |
| <400> 85                                                               |     |
| gaaattttcc ccagatccgg atctacttac tataacgaga agtttaaagg c               | 51  |
|                                                                        |     |
| <210> 86                                                               |     |
| <211> 33                                                               |     |
| <212> DNA                                                              |     |
| <213> Artificial Sequence                                              |     |
| <220>                                                                  |     |
| <223> Description of Artificial Sequence: Synthetic<br>oligonucleotide |     |
|                                                                        |     |
| <400> 86                                                               |     |
| gattactatg ggacaagttt tgccatggac tat                                   | 33  |
|                                                                        |     |
| <210> 87                                                               |     |
| <211> 51                                                               |     |
| <212> DNA                                                              |     |
| <213> Artificial Sequence                                              |     |
| <220>                                                                  |     |
| <223> Description of Artificial Sequence: Synthetic<br>oligonucleotide |     |
|                                                                        |     |
| <400> 87                                                               |     |
| aagtcttcac agagcctgct gaactcccgg accagaaaga attacctggc a               | 51  |

<210> 88  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Synthetic  
         oligonucleotide  
  
 <400> 88  
 tgggcatcaa caaggagag c 21  
  
  
 <210> 89  
 <211> 24  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Synthetic  
         oligonucleotide  
  
 <400> 89  
 aaacagagct tctatctgcg aact 24  
  
  
 <210> 90  
 <211> 360  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Description of Artificial Sequence: Synthetic  
         polynucleotide  
  
  
 <220>  
 <221> CDS  
 <222> (1)..(360)  
  
 <400> 90  
 cag gtc caa ttg cag cag tct gga cct gag ctg gtg aag cct ggg act 48  
 Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Thr  
 1 5 10 15  
  
 tca gtg aag atg ccc tgt aag gct tct gga tac ata ttc act gac tat 96  
 Ser Val Lys Met Pro Cys Lys Ala Ser Gly Tyr Ile Phe Thr Asp Tyr  
 20 25 30  
  
 gtc ata agc tgg gtg aag cag aga act gga cag ggc ctt gag tgg att 144  
 Val Ile Ser Trp Val Lys Gln Arg Thr Gly Gln Gly Leu Glu Trp Ile  
 35 40 45  
  
 gga gag att ttt cct aga agt ggt agt act tac tac aat gag aag ttc 192  
 Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe

| 50                                                                 | 55  | 60  |     |
|--------------------------------------------------------------------|-----|-----|-----|
| aag ggc aag gcc aca ctg act gca gac aaa tcc tcc aac aca gcc tac    |     |     | 240 |
| Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Asn Thr Ala Tyr    |     |     |     |
| 65                                                                 | 70  | 75  | 80  |
| atg cag ctc agc agc gtg aca tct gag gac tct gcg gtc tat ttc tgt    |     |     | 288 |
| Met Gln Leu Ser Ser Val Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys    |     |     |     |
|                                                                    | 85  | 90  | 95  |
| gca aga gat tac tac ggt act tca ttt gct atg gac tac tgg ggt caa    |     |     | 336 |
| Ala Arg Asp Tyr Tyr Gly Thr Ser Phe Ala Met Asp Tyr Trp Gly Gln    |     |     |     |
|                                                                    | 100 | 105 | 110 |
| gga acc tca gtc acc gtc tcc tca                                    |     |     | 360 |
| Gly Thr Ser Val Thr Val Ser Ser                                    |     |     |     |
|                                                                    | 115 | 120 |     |
| <210> 91                                                           |     |     |     |
| <211> 336                                                          |     |     |     |
| <212> DNA                                                          |     |     |     |
| <213> Artificial Sequence                                          |     |     |     |
| <220>                                                              |     |     |     |
| <223> Description of Artificial Sequence: Synthetic polynucleotide |     |     |     |
| <220>                                                              |     |     |     |
| <221> CDS                                                          |     |     |     |
| <222> (1)..(336)                                                   |     |     |     |
| <400> 91                                                           |     |     |     |
| gac att gtg atg tca cag tct cca tcc tcc ctg gct gtg tca gca gga    |     |     | 48  |
| Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala Val Ser Ala Gly    |     |     |     |
| 1                                                                  | 5   | 10  | 15  |
| gag aag gtc act atg agc tgc aaa tcc agt cag agt ctg ctc aac agt    |     |     | 96  |
| Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser    |     |     |     |
|                                                                    | 20  | 25  | 30  |
| aga acc cga aag aac tac ctg gct tgg tac cag cag aaa cca ggg cag    |     |     | 144 |
| Arg Thr Arg Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln    |     |     |     |
|                                                                    | 35  | 40  | 45  |
| tct cct aaa ctg ctg atc tac tgg gca tcc act agg gaa tct ggg gtc    |     |     | 192 |
| Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val    |     |     |     |
|                                                                    | 50  | 55  | 60  |
| cct gat cgc ttc aca ggc agt gga tct ggg aca gat ttc act ctc acc    |     |     | 240 |
| Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr    |     |     |     |
| 65                                                                 | 70  | 75  | 80  |
| atc agc agt gtg cag gct gaa gac ctg gca gtt tat tac tgc aag caa    |     |     | 288 |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile | Ser | Ser | Val | Gln | Ala | Glu | Asp | Leu | Ala | Val | Tyr | Tyr | Cys | Lys | Gln |     |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |     |
| tct | ttt | tat | ctt | cgg | acg | ttc | ggg | gga | ggc | acc | aag | ctg | gac | atc | aaa | 336 |
| Ser | Phe | Tyr | Leu | Arg | Thr | Phe | Gly | Gly | Gly | Thr | Lys | Leu | Asp | Ile | Lys |     |
|     |     |     | 100 |     |     |     | 105 |     |     |     |     | 110 |     |     |     |     |

<210> 92  
 <211> 360  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic polynucleotide

|                                                                    |     |
|--------------------------------------------------------------------|-----|
| <400> 92                                                           |     |
| caggtccagc tgcagcagag cggccccgaa ctggtcaaac ccggaacctc cgtgaagatg  | 60  |
| ccttgtaaag cctcaggata cattttcacc gattacgtga tctcttgggt caaacagcga  | 120 |
| acaggacagg gactggagtg gatcggggaa attttccca gatccggatc tacttactat   | 180 |
| aacgagaagt ttaaaggcaa ggccaccctg acagctgaca agagctcaa tacagcttac   | 240 |
| atgcagctgt ctagtgtgac tagtgaagac tcagcagtct atttctgcgc cagggtattac | 300 |
| tatgggacaa gttttgccat ggactattgg ggacagggca cttccgtgac cgtctcaagc  | 360 |

<210> 93  
 <211> 336  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic polynucleotide

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| <400> 93                                                          |     |
| gatattgtca tgtcacagtc accttcatcc ctggcagtca gcgccggaga aaaagtcact | 60  |
| atgtcttgta agtcttcaca gaggctgctg aactcccga ccagaaagaa ttacctggca  | 120 |
| tggtatcagc agaagcccgg ccagtctcct aaactgctga tctactgggc atcaacaagg | 180 |
| gagagcggag tgccagaccg cttcacaggc tctgggagtg gaactgattt taccctgaca | 240 |
| attagctccg tgcaggccga agacctggct gtctactatt gcaaacagag cttctatctg | 300 |
| cgaacttttg gcgggggaac caagctggat atcaaa                           | 336 |

<210> 94

<211> 360  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 94  
caggtccagc tgcagcagag cggcccccga ctggtcaaac ccggaacctc cgtgaagatg 60  
ccttgtaaag cctcaggata cattttcacc gattacgtga tctcttgggt caaacagcga 120  
acaggacagg gactggagtg gatcggggaa attttcccca gatccggatc tacttactat 180  
aacgagaagt ttaaaggcaa ggccaccctg acagctgaca agagctcaa tacagcttac 240  
atgcagctgt ctagtgtgac tagtgaagac tcagcagtct atttctgcgc cagggattac 300  
tatgggacaa gttttgcat ggactattgg ggacagggca cttccgtgac cgtctcaagc 360

<210> 95  
<211> 336  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 95  
gatattgtca tgtcacagtc accttcatcc ctggcagtca gcgccggaga aaaagtcact 60  
atgtcttgta agtcttcaca gagcctgctg aactcccga ccagaaagaa ttacctggca 120  
tggtatcagc agaagcccgg ccagtctcct aaactgctga tctactgggc atcaacaagg 180  
gagagcggag tgccagaccg cttcacaggc tctgggagtg gaactgattt taccctgaca 240  
attagctccg tgcaggccga agacctggct gtctactatt gcaaacagag cttctatctg 300  
cgaacttttg gcgggggaac caagctggat atcaaa 336

<210> 96  
<211> 360  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 96

|            |            |            |            |            |             |     |
|------------|------------|------------|------------|------------|-------------|-----|
| caggtccagc | tggtccagag | cggagcagaa | gtgaagaaac | ccggaagtag | cgtgaagggtg | 60  |
| tcatgcaagg | caagcggcgg | aacatttagt | gattacgtga | tctcctgggt | ccgacaggct  | 120 |
| ccaggacagg | gactggagtg | gatgggggaa | attttcccta | gatcaggaag | cacctactat  | 180 |
| aacgagaagt | ttaaaggccg | cgtgaccatc | acagcagaca | agtccacttc | taccgcctac  | 240 |
| atggagctga | gctccctgcg | gagcgaagac | accgccgtct | actattgcgc | tagagattac  | 300 |
| tatgggacat | ctttcgccat | ggactattgg | ggacagggca | cactggtgac | tgtctctagt  | 360 |

<210> 97

<211> 360

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 97

|            |            |             |            |            |            |     |
|------------|------------|-------------|------------|------------|------------|-----|
| caggtccagc | tggtgcagtc | aggccccgaa  | gtgaagaagc | ccggaagtag | tgtcaaggtc | 60  |
| ccatgtaaag | catcagggta | tatTTTTtact | gattacgtga | tcagctgggt | caaacaggca | 120 |
| ccaggacagg | gactggagtg | gatcggggaa  | attttcccta | gatcaggaag | cacatactat | 180 |
| aacgagaagt | ttaaaggcaa | ggccaccctg  | acagctgaca | agtccacttc | taccgcttac | 240 |
| atggagctga | gctccctgcg | gagtgaagac  | accgcagtgt | atttctgcgc | cagagattac | 300 |
| tatgggacat | cctttgcaat | ggactattgg  | ggacagggca | cactggtgac | tgtctctagt | 360 |

<210> 98

<211> 360

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 98

|            |            |            |            |            |             |     |
|------------|------------|------------|------------|------------|-------------|-----|
| caggtccagc | tggtccagag | cggacccgaa | gtgaagaaac | ccggaagtag | cgtgaagggtg | 60  |
| ccatgcaagg | caagcggcgg | aacatttagt | gattacgtga | tctcctgggt | ccgacaggct  | 120 |
| ccaggacagg | gactggagtg | gatgggggaa | attttcccta | gatcaggaag | cacctactat  | 180 |
| aacgagaagt | ttaaaggccg | cgtgaccatc | acagcagaca | agtccacttc | taccgcctac  | 240 |
| atggagctga | gctccctgcg | gagcgaagac | accgccgtct | actattgcgc | tagagattac  | 300 |

tatgggacat ctttcgccat ggactattgg ggacagggca cactggtgac tgtctctagt 360

<210> 99

<211> 360

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 99

cagggtccagc tgggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg 60

tcatgcaagg caagcgggta tacatttagt gattacgtga tctcctgggt ccgacaggct 120

ccaggacagg gactggagt gatgggggaa attttccta gatcaggaag cacctactat 180

aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtccacttc taccgcctac 240

atggagctga gctccctgcg gagcgaagac accgccgtct actattgcgc tagagattac 300

tatgggacat ctttcgccat ggactattgg ggacagggca cactggtgac tgtctctagt 360

<210> 100

<211> 360

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 100

cagggtccagc tgggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg 60

tcatgcaagg caagcggcgg aatttttagt gattacgtga tctcctgggt ccgacaggct 120

ccaggacagg gactggagt gatgggggaa attttccta gatcaggaag cacctactat 180

aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtccacttc taccgcctac 240

atggagctga gctccctgcg gagcgaagac accgccgtct actattgcgc tagagattac 300

tatgggacat ctttcgccat ggactattgg ggacagggca cactggtgac tgtctctagt 360

<210> 101

<211> 360

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 101

|            |            |            |            |            |             |     |
|------------|------------|------------|------------|------------|-------------|-----|
| caggtccagc | tggtccagag | cggagcagaa | gtgaagaaac | ccggaagtag | cgtgaagggtg | 60  |
| tcatgcaagg | caagcggcgg | aacatttact | gattacgtga | tctcctgggt | ccgacaggct  | 120 |
| ccaggacagg | gactggagtg | gatgggggaa | attttcccta | gatcaggaag | cacctactat  | 180 |
| aacgagaagt | ttaaaggccg | cgtgaccatc | acagcagaca | agtccacttc | taccgcctac  | 240 |
| atggagctga | gctccctgcg | gagcgaagac | accgccgtct | actattgcgc | tagagattac  | 300 |
| tatgggacat | ctttcgccat | ggactattgg | ggacagggca | cactggtgac | tgtctctagt  | 360 |

<210> 102

<211> 360

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 102

|            |            |            |            |            |             |     |
|------------|------------|------------|------------|------------|-------------|-----|
| caggtccagc | tggtccagag | cggagcagaa | gtgaagaaac | ccggaagtag | cgtgaagggtg | 60  |
| tcatgcaagg | caagcggcgg | aacatttagt | gattacgtga | tctcctgggt | caaacaggct  | 120 |
| ccaggacagg | gactggagtg | gatgggggaa | attttcccta | gatcaggaag | cacctactat  | 180 |
| aacgagaagt | ttaaaggccg | cgtgaccatc | acagcagaca | agtccacttc | taccgcctac  | 240 |
| atggagctga | gctccctgcg | gagcgaagac | accgccgtct | actattgcgc | tagagattac  | 300 |
| tatgggacat | ctttcgccat | ggactattgg | ggacagggca | cactggtgac | tgtctctagt  | 360 |

<210> 103

<211> 360

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 103

|            |            |            |            |            |             |     |
|------------|------------|------------|------------|------------|-------------|-----|
| caggtccagc | tggtccagag | cggagcagaa | gtgaagaaac | ccggaagtag | cgtgaagggtg | 60  |
| tcatgcaagg | caagcggcgg | aacatttagt | gattacgtga | tctcctgggt | ccgacaggct  | 120 |

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| ccaggacagg gactggagtg gatcggggaa attttccta gatcaggaag cacctactat  | 180 |
| aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtccacttc taccgcctac | 240 |
| atggagctga gctccctgcg gagcgaagac accgccgtct actattgcgc tagagattac | 300 |
| tatgggacat ctttcgccat ggactattgg ggacagggca cactggtgac tgtctctagt | 360 |

<210> 104

<211> 360

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 104

|                                                                     |     |
|---------------------------------------------------------------------|-----|
| caggtccagc tgggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg | 60  |
| tcatgcaagg caagcggcgg aacatttagt gattacgtga tctcctgggt ccgacaggct   | 120 |
| ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat    | 180 |
| aacgagaagt ttaaaggcaa ggtgaccatc acagcagaca agtccacttc taccgcctac   | 240 |
| atggagctga gctccctgcg gagcgaagac accgccgtct actattgcgc tagagattac   | 300 |
| tatgggacat ctttcgccat ggactattgg ggacagggca cactggtgac tgtctctagt   | 360 |

<210> 105

<211> 360

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 105

|                                                                     |     |
|---------------------------------------------------------------------|-----|
| caggtccagc tgggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg | 60  |
| tcatgcaagg caagcggcgg aacatttagt gattacgtga tctcctgggt ccgacaggct   | 120 |
| ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat    | 180 |
| aacgagaagt ttaaaggccg cgccaccatc acagcagaca agtccacttc taccgcctac   | 240 |
| atggagctga gctccctgcg gagcgaagac accgccgtct actattgcgc tagagattac   | 300 |
| tatgggacat ctttcgccat ggactattgg ggacagggca cactggtgac tgtctctagt   | 360 |

<210> 106  
<211> 360  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 106  
caggtccagc tgggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaaggtg 60  
tcatgcaagg caagcggcgg aacatttagt gattacgtga tctcctgggt ccgacaggct 120  
ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat 180  
aacgagaagt ttaaaggccg cgtgaccctg acagcagaca agtccacttc taccgcctac 240  
atggagctga gctccctgcg gagcgaagac accgccgtct actattgcgc tagagattac 300  
tatgggacat ctttcgccat ggactattgg ggacagggca cactggtgac tgtctctagt 360

<210> 107  
<211> 360  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 107  
caggtccagc tgggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaaggtg 60  
tcatgcaagg caagcggcgg aacatttagt gattacgtga tctcctgggt ccgacaggct 120  
ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat 180  
aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtccacttc taccgcctac 240  
atggagctga gctccctgcg gagcgaagac accgccgtct atttctgcgc tagagattac 300  
tatgggacat ctttcgccat ggactattgg ggacagggca cactggtgac tgtctctagt 360

<210> 108  
<211> 360  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 108  
cagggtccagc tgggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg 60  
tcattgcaagg caagcgggta tatttttagt gattacgtga tctcctgggt ccgacaggct 120  
ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat 180  
aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtccacttc taccgcctac 240  
atggagctga gctccctgcg gagcgaagac accgccgtct actattgcgc tagagattac 300  
tatgggacat ctttcgcat ggactattgg ggacagggca cactggtgac tgtctctagt 360

<210> 109  
<211> 336  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 109  
gacatcgtga tgacacagtc cccactgtct ctgcccgtca ctcctgggga gccagcatct 60  
attagttgca agagctccca gagtctgctg aactcacgga ccagaaagaa ttacctggcc 120  
tggtatctgc agaaacccgg acagagccct cagctgctga tctactgggc tagcaccagg 180  
gaatccggag tgccagaccg cttcacagga tcaggaagcg gaaccgattt tacactgaag 240  
atcagccggg tggaggccga agatgtgggc gtctactatt gtaaacagtc cttctatctg 300  
agaacttttg gccaggggac caaggtggag atcaaa 336

<210> 110  
<211> 336  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 110  
gacatcgtga tgtctcagag tccactgtct ctgccagtca cccctggaga gccagcatca 60  
attagctgca agagctccca gagtctgctg aactcacgga caagaaagaa ttacctggcc 120  
tggtatctgc agaaacccgg acagagccct cagctgctga tctactgggc tagcacaagg 180  
gaatccggag tgccagaccg cttcactgga tccggatctg gaaccgattt tacactgaag 240

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| atcagccggg tggaggccga agatgtgggc gtctactatt gtaaacagag tttctatctg | 300 |
| agaacttttg gccaggggac caaggtggag atcaaa                           | 336 |

<210> 111  
 <211> 1350  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic polynucleotide

|                                                                     |      |
|---------------------------------------------------------------------|------|
| <400> 111                                                           |      |
| caggtccagc tgggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg | 60   |
| tcatgcaagg caagcggcgg aacatttagt gattacgtga tctcctgggt ccgacaggct   | 120  |
| ccaggacagg gactggagt gatgggggaa attttccta gatcaggaag cacctactat     | 180  |
| aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtccacttc taccgcctac   | 240  |
| atggagctga gtcctctgcg gagcgaagac accgccgtct actattgcgc tagagattac   | 300  |
| tatgggacat ctttcgcat ggactattgg ggacagggca cactggtgac tgtctctagt    | 360  |
| gcctccacca agggcccttc cgtgttcct ctggcccctt cctccaagtc cacctccggc    | 420  |
| ggcaccgccg ctctgggctg cctggtgaag gactacttcc ctgagcctgt gaccgtgtcc   | 480  |
| tggaaactctg gcgccctgac cagcggcgtg cacaccttcc ctgccgtgct gcagtcctcc  | 540  |
| ggcctgtact ccctgtcctc cgtggtgacc gtgccttcct cctccctggg caccagacc    | 600  |
| tacatctgca acgtgaacca caagccttcc aacaccaagg tggacaagaa ggtggagcct   | 660  |
| aagtcctgcg acaagacca cacgtgccct ccatgcccag ctcccagct gctgggcgga     | 720  |
| ccaagcgtgt ttctgttccc tcctaagcct aaggacaccc tgatgatctc ccggaccct    | 780  |
| gaggtgacgt gcgtggtggt ggacgtgtcc cacgaggacc cagaggtgaa gttcaattgg   | 840  |
| tacgtggacg gcgtggaggt gcacaacgcc aagaccaagc ctcgaggagga acagtacaac  | 900  |
| tccacctacc ggggtggtgtc tgtgctgacc gtgctgcacc aggactggct gaacggcaag  | 960  |
| gaatacaagt gcaaagtctc caacaaggcc ctgcctgccc ccatcgaaaa gaccatctcc   | 1020 |
| aaggccaagg gccagcctcg cgagcctcag gtgtacaccc tgcctccaag caggaggagaa  | 1080 |
| atgaccaaga accaggtgtc cctgacctgt ctggtgaagg gcttctaccc ttccgatatc   | 1140 |
| gccgtggagt gggagtccaa cggccagcct gagaacaact acaagaccac ccctcctgtg   | 1200 |

|                                                                    |      |
|--------------------------------------------------------------------|------|
| ctggactccg acggctcctt cttcctgtac tccaagctga ccgtggacaa gtcccgggtgg | 1260 |
| cagcagggca acgtgttctc ctgctccgtg atgcacgagg ccctgcacaa ccactacacc  | 1320 |
| cagaagagcc tctccctgtc cccgggtaaa                                   | 1350 |

<210> 112

<211> 1350

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 112

|                                                                    |      |
|--------------------------------------------------------------------|------|
| caggtccagc tggtgcagtc agggcccgaa gtgaagaagc ccggaagtag tgtcaaggtc  | 60   |
| ccatgtaaag catcagggta tatttttact gattacgtga tcagctgggt caaacaggca  | 120  |
| ccaggacagg gactggagtg gatcggggaa attttccta gatcaggaag cacatactat   | 180  |
| aacgagaagt ttaaaggcaa ggccaccctg acagctgaca agtccacttc taccgcttac  | 240  |
| atggagctga gtcctctgcg gagtgaagac accgcagtgt atttctgcgc cagagattac  | 300  |
| tatgggacat cttttgcaat ggactattgg ggacagggca cactgggtgac tgtctctagt | 360  |
| gcctccacca agggcccttc cgtgttcct ctggcccctt cctccaagtc cacctccggc   | 420  |
| ggcaccgccg ctctgggctg cctgggtgaag gactacttcc ctgagcctgt gaccgtgtcc | 480  |
| tggaactctg gcgccctgac cagcggcgtg cacaccttcc ctgccgtgct gcagtcctcc  | 540  |
| ggcctgtact ccctgtcctc cgtgggtgacc gtgccttcct cctccctggg caccagacc  | 600  |
| tacatctgca acgtgaacca caagccttcc aacaccaagg tggacaagaa ggtggagcct  | 660  |
| aagtcctgcg acaagaccca cacgtgccct ccatgcccag ctcccagct gctgggcgga   | 720  |
| ccaagcgtgt ttctgttccc tcctaagcct aaggacaccc tgatgatctc ccggaccct   | 780  |
| gaggtgacgt gcgtgggtgt ggacgtgtcc cacgaggacc cagaggtgaa gttcaattgg  | 840  |
| tacgtggacg gcgtggaggt gcacaacgcc aagaccaagc ctcgaggagga acagtacaac | 900  |
| tccacctacc ggggtggtgtc tgtgctgacc gtgctgcacc aggactggct gaacggcaag | 960  |
| gaatacaagt gcaaagtctc caacaaggcc ctgcctgccc ccatcgaaaa gaccatctcc  | 1020 |
| aaggccaagg gccagcctcg cgagcctcag gtgtacaccc tgcctccaag caggaggagaa | 1080 |
| atgaccaaga accaggtgtc cctgacctgt ctgggtgaagg gcttctaccc ttccgatatc | 1140 |

|                                                                   |      |
|-------------------------------------------------------------------|------|
| gccgtggagt gggagtccaa cggccagcct gagaacaact acaagaccac ccctcctgtg | 1200 |
| ctggactccg acggctcctt cttcctgtac tccaagctga ccgtggacaa gtcccgggtg | 1260 |
| cagcagggca acgtgttctc ctgctccgtg atgcacgagg ccctgcacaa ccactacacc | 1320 |
| cagaagagcc tctccctgtc cccgggtaaa                                  | 1350 |

<210> 113

<211> 1350

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 113

|                                                                    |      |
|--------------------------------------------------------------------|------|
| caggtccagc tggtccagag cggacccgaa gtgaagaaac ccggaagtag cgtgaagggtg | 60   |
| ccatgcaagg caagcggcgg aacatttagt gattacgtga tctcctgggt ccgacaggct  | 120  |
| ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat   | 180  |
| aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtccacttc taccgcctac  | 240  |
| atggagctga gtccttgcg gagcgaagac accgccgtct actattgcgc tagagattac   | 300  |
| tatgggacat ctttcgcat ggactattgg ggacagggca cactggtgac tgtctctagt   | 360  |
| gcctccacca agggcccttc cgtgttcct ctggcccctt cctccaagtc cacctccggc   | 420  |
| ggcaccgccg ctctgggctg cctggtgaag gactacttcc ctgagcctgt gaccgtgtcc  | 480  |
| tggaactctg gcgccctgac cagcggcgtg cacaccttcc ctgccgtgct gcagtcctcc  | 540  |
| ggcctgtact ccctgtcctc cgtggtgacc gtgccttcct cctccctggg caccagacc   | 600  |
| tacatctgca acgtgaacca caagccttcc aacaccaagg tggacaagaa ggtggagcct  | 660  |
| aagtcctgcg acaagacca cacgtgccct ccatgcccag ctcccagct gctgggcgga    | 720  |
| ccaagcgtgt ttctgttccc tcctaagcct aaggacaccc tgatgatctc ccggaccctt  | 780  |
| gaggtgacgt gcgtgggtgt ggacgtgtcc cacgaggacc cagaggtgaa gttcaattgg  | 840  |
| tacgtggacg gcgtggaggt gcacaacgcc aagaccaagc ctcgggagga acagtacaac  | 900  |
| tccacctacc ggggtggtgtc tgtgctgacc gtgctgcacc aggactggct gaacggcaag | 960  |
| gaatacaagt gcaaagtctc caacaaggcc ctgcctgccc ccatcgaaaa gaccatctcc  | 1020 |
| aaggccaagg gccagcctcg cgagcctcag gtgtacaccc tgcctccaag caggaggagaa | 1080 |

|                                                                   |      |
|-------------------------------------------------------------------|------|
| atgaccaaga accaggtgtc cctgacctgt ctggtgaagg gcttctaccc ttccgatatc | 1140 |
| gccgtggagt gggagtccaa cggccagcct gagaacaact acaagaccac ccctcctgtg | 1200 |
| ctggactccg acggctcctt cttcctgtac tccaagctga ccgtggacaa gtcccgggtg | 1260 |
| cagcagggca acgtgttctc ctgctccgtg atgcacgagg ccctgcacaa ccactacacc | 1320 |
| cagaagagcc tctccctgtc cccgggtaaa                                  | 1350 |

<210> 114

<211> 1350

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 114

|                                                                    |      |
|--------------------------------------------------------------------|------|
| caggtccagc tggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg | 60   |
| tcatgcaagg caagcgggta tacatttagt gattacgtga tctcctgggt ccgacaggct  | 120  |
| ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat   | 180  |
| aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtccacttc taccgcctac  | 240  |
| atggagctga gctccctgcg gagcgaagac accgccgtct actattgcgc tagagattac  | 300  |
| tatgggacat ctttcgcat ggactattgg ggacagggca cactggtgac tgtctctagt   | 360  |
| gcctccacca agggcccttc cgtgttccct ctggcccctt cctccaagtc cacctccggc  | 420  |
| ggcaccgccg ctctgggctg cctggtgaag gactacttcc ctgagcctgt gaccgtgtcc  | 480  |
| tggaactctg gcgccctgac cagcggcgtg cacaccttcc ctgccgtgct gcagtcctcc  | 540  |
| ggcctgtact ccctgtcctc cgtggtgacc gtgccttcct cctccctggg caccagacc   | 600  |
| tacatctgca acgtgaacca caagccttcc aacaccaagg tggacaagaa ggtggagcct  | 660  |
| aagtcctgcg acaagaccca cacgtgccct ccatgcccag ctcccagct gctgggcgga   | 720  |
| ccaagcgtgt ttctgttccc tcctaagcct aaggacaccc tgatgatctc ccggaccctt  | 780  |
| gaggtgacgt gcgtgggtgt ggacgtgtcc cagcaggacc cagaggtgaa gttcaattgg  | 840  |
| tacgtggacg gcgtggaggt gcacaacgcc aagaccaagc ctcgggagga acagtacaac  | 900  |
| tccacctacc ggggtggtgtc tgtgctgacc gtgctgcacc aggactggct gaacggcaag | 960  |
| gaatacaagt gcaaagtctc caacaaggcc ctgcctgccc ccatcgaaaa gaccatctcc  | 1020 |

|                                                                    |      |
|--------------------------------------------------------------------|------|
| aaggccaagg gccagcctcg cgagcctcag gtgtacaccc tgcctccaag caggaggagaa | 1080 |
| atgaccaaga accaggtgtc cctgacctgt ctggtgaagg gcttctaccc ttccgatatc  | 1140 |
| gccgtggagt gggagtccaa cggccagcct gagaacaact acaagaccac ccctcctgtg  | 1200 |
| ctggactccg acggctcctt cttcctgtac tccaagctga ccgtggacaa gtcccgggtg  | 1260 |
| cagcagggca acgtgttctc ctgctccgtg atgcacgagg ccctgcacaa ccactacacc  | 1320 |
| cagaagagcc tctccctgtc cccgggtaaa                                   | 1350 |

<210> 115

<211> 1350

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 115

|                                                                     |     |
|---------------------------------------------------------------------|-----|
| cagggtccagc tggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg | 60  |
| tcatgcaagg caagcggcgg aatttttagt gattacgtga tctcctgggt ccgacaggct   | 120 |
| ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat    | 180 |
| aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtccacttc taccgcctac   | 240 |
| atggagctga gctccctgcg gagcgaagac accgccgtct actattgcgc tagagattac   | 300 |
| tatgggacat ctttcgcat ggactattgg ggacagggca cactggtgac tgtctctagt    | 360 |
| gcctccacca agggcccttc cgtgttcctt ctggcccctt cctccaagtc cacctccggc   | 420 |
| ggcaccgccg ctctgggctg cctggtgaag gactacttcc ctgagcctgt gaccgtgtcc   | 480 |
| tggaactctg gcgccctgac cagcggcgtg cacaccttcc ctgccgtgct gcagtcctcc   | 540 |
| ggcctgtact ccctgtcctc cgtggtgacc gtgccttcct cctccctggg caccagacc    | 600 |
| tacatctgca acgtgaacca caagccttcc aacaccaagg tggacaagaa ggtggagcct   | 660 |
| aagtcctgcg acaagacca cacgtgccct ccatgcccag ctcccagct gctgggcgga     | 720 |
| ccaagcgtgt ttctgttccc tcctaagcct aaggacaccc tgatgatctc ccggaccctt   | 780 |
| gaggtgacgt gcgtgggtgt ggacgtgtcc cacgaggacc cagaggtgaa gttcaattgg   | 840 |
| tacgtggacg gcgtggaggt gcacaacgcc aagaccaagc ctcgaggagga acagtacaac  | 900 |
| tccacctacc ggggtggtgtc tgtgctgacc gtgctgcacc aggactggct gaacggcaag  | 960 |

|                                                                   |      |
|-------------------------------------------------------------------|------|
| gaatacaagt gcaaagtctc caacaaggcc ctgcctgccc ccatcgaaaa gaccatctcc | 1020 |
| aaggccaagg gccagcctcg cgagcctcag gtgtacaccc tgcctccaag cagggaggaa | 1080 |
| atgaccaaga accaggtgtc cctgacctgt ctggtgaagg gcttctaccc ttccgatatc | 1140 |
| gccgtggagt gggagtccaa cggccagcct gagaacaact acaagaccac ccctcctgtg | 1200 |
| ctggactccg acggctcctt cttcctgtac tccaagctga ccgtggacaa gtcccgggtg | 1260 |
| cagcagggca acgtgttctc ctgctccgtg atgcacgagg ccctgcacaa ccactacacc | 1320 |
| cagaagagcc tctccctgtc cccgggtaaa                                  | 1350 |

<210> 116

<211> 1350

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 116

|                                                                     |     |
|---------------------------------------------------------------------|-----|
| caggtccagc tgggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg | 60  |
| tcatgcaagg caagcggcgg aacatttact gattacgtga tctcctgggt ccgacaggct   | 120 |
| ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat    | 180 |
| aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtcacttc taccgcctac    | 240 |
| atggagctga gctccctgcg gagcgaagac accgccgtct actattgcgc tagagattac   | 300 |
| tatgggacat ctttcgcat ggactattgg ggacagggca cactggtgac tgtctctagt    | 360 |
| gcctccacca agggcccttc cgtgttcctt ctggcccctt cctccaagtc cacctccggc   | 420 |
| ggcaccgccg ctctgggctg cctggtgaag gactacttcc ctgagcctgt gaccgtgtcc   | 480 |
| tggaactctg gcgccctgac cagcggcgtg cacaccttcc ctgccgtgct gcagtcctcc   | 540 |
| ggcctgtact ccctgtcctc cgtggtgacc gtgccttcct cctccctggg caccagacc    | 600 |
| tacatctgca acgtgaacca caagccttcc aacaccaagg tggacaagaa ggtggagcct   | 660 |
| aagtcctgcg acaagaccca cacgtgccct ccatgcccag ctcccagct gctgggcgga    | 720 |
| ccaagcgtgt ttctgttccc tcctaagcct aaggacaccc tgatgatctc ccggaccctt   | 780 |
| gaggtgacgt gcgtgggtgt ggacgtgtcc cacgaggacc cagaggtgaa gttcaattgg   | 840 |
| tacgtggacg gcgtggaggt gcacaacgcc aagaccaagc ctcgggagga acagtacaac   | 900 |

|                                                                    |      |
|--------------------------------------------------------------------|------|
| tccacctacc gggtaggtgtc tgtgctgacc gtgctgcacc aggactggct gaacggcaag | 960  |
| gaatacaagt gcaaagtctc caacaaggcc ctgcctgccc ccatcgaaaa gaccatctcc  | 1020 |
| aaggccaagg gccagcctcg cgagcctcag gtgtacaccc tgcctccaag cagggaggaa  | 1080 |
| atgaccaaga accaggtgtc cctgacctgt ctggtgaagg gcttctaccc ttccgatatc  | 1140 |
| gccgtggagt gggagtccaa cggccagcct gagaacaact acaagaccac ccctcctgtg  | 1200 |
| ctggactccg acggctcctt cttcctgtac tccaagctga ccgtggacaa gtcccgggtg  | 1260 |
| cagcagggca acgtgttctc ctgctccgtg atgcacgagg ccctgcacaa ccactacacc  | 1320 |
| cagaagagcc tctccctgtc cccgggtaaa                                   | 1350 |

<210> 117

<211> 1350

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 117

|                                                                     |     |
|---------------------------------------------------------------------|-----|
| caggtccagc tgggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg | 60  |
| tcatgcaagg caagcggcgg aacatttagt gattacgtga tctcctgggt caaacaggct   | 120 |
| ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat    | 180 |
| aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtccacttc taccgcctac   | 240 |
| atggagctga gtcctctgcg gagcgaagac accgccgtct actattgcgc tagagattac   | 300 |
| tatgggacat ctttcgcat ggactattgg ggacagggca cactggtgac tgtctctagt    | 360 |
| gcctccacca agggcccttc cgtgttcctt ctggcccctt cctccaagtc cacctccggc   | 420 |
| ggcaccgccg ctctgggctg cctggtgaag gactacttcc ctgagcctgt gaccgtgtcc   | 480 |
| tggaactctg gcgccctgac cagcggcgtg cacaccttcc ctgccgtgct gcagtcctcc   | 540 |
| ggcctgtact ccctgtcctc cgtggtgacc gtgccttcct cctccctggg caccagacc    | 600 |
| tacatctgca acgtgaacca caagccttcc aacaccaagg tggacaagaa ggtggagcct   | 660 |
| aagtcctgcg acaagacca cacgtgccct ccatgcccag ctcccagct gctgggcgga     | 720 |
| ccaagcgtgt ttctgttccc tcctaagcct aaggacaccc tgatgatctc ccggaccctt   | 780 |
| gaggtgacgt gcgtgggtgt ggacgtgtcc cacgaggacc cagaggtgaa gttcaattgg   | 840 |

|                                                                    |      |
|--------------------------------------------------------------------|------|
| tacgtggacg gcgtggaggt gcacaacgcc aagaccaagc ctcgggagga acagtacaac  | 900  |
| tccacctacc ggggtggtgtc tgtgctgacc gtgctgcacc aggactggct gaacggcaag | 960  |
| gaatacaagt gcaaagtctc caacaaggcc ctgcctgccc ccatcgaaaa gaccatctcc  | 1020 |
| aaggccaagg gccagcctcg cgagcctcag gtgtacaccc tgcctccaag cagggaggaa  | 1080 |
| atgaccaaga accaggtgtc cctgacctgt ctggtgaagg gcttctaccc ttccgatatc  | 1140 |
| gccgtggagt gggagtccaa cggccagcct gagaacaact acaagaccac ccctcctgtg  | 1200 |
| ctggactccg acggctcctt cttcctgtac tccaagctga ccgtggacaa gtcccgggtg  | 1260 |
| cagcagggca acgtgttctc ctgctccgtg atgcacgagg ccctgcacaa ccactacacc  | 1320 |
| cagaagagcc tctccctgtc cccgggtaaa                                   | 1350 |

<210> 118

<211> 1350

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 118

|                                                                     |     |
|---------------------------------------------------------------------|-----|
| caggtccagc tgggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg | 60  |
| tcatgcaagg caagcggcgg aacatttagt gattacgtga tctcctgggt ccgacaggct   | 120 |
| ccaggacagg gactggagtg gatcggggaa attttccta gatcaggaag cacctactat    | 180 |
| aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtccacttc taccgcctac   | 240 |
| atggagctga gtccttgcg gagcgaagac accgccgtct actattgcgc tagagattac    | 300 |
| tatgggacat ctttcgcat ggactattgg ggacagggca cactggtgac tgtctctagt    | 360 |
| gcctccacca agggcccttc cgtgttcct ctggcccctt cctccaagtc cacctccggc    | 420 |
| ggcaccgccg ctctgggctg cctggtgaag gactacttcc ctgagcctgt gaccgtgtcc   | 480 |
| tggaactctg gcgccctgac cagcggcgtg cacaccttcc ctgccgtgct gcagtcctcc   | 540 |
| ggcctgtact ccctgtcctc cgtggtgacc gtgccttcct cctccctggg caccagacc    | 600 |
| tacatctgca acgtgaacca caagccttcc aacaccaagg tggacaagaa ggtggagcct   | 660 |
| aagtcctgcg acaagacca cacgtgccct ccatgcccag ctcccagct gctgggcgga     | 720 |
| ccaagcgtgt ttctgttccc tcctaagcct aaggacaccc tgatgatctc ccggaccct    | 780 |

|                                                                    |      |
|--------------------------------------------------------------------|------|
| gaggtgacgt gcgtgggtggt ggacgtgtcc cacgaggacc cagaggtgaa gttcaattgg | 840  |
| tacgtggacg gcgtggaggt gcacaacgcc aagaccaagc ctcgggagga acagtacaac  | 900  |
| tccacctacc ggggtggtgtc tgtgctgacc gtgctgcacc aggactggct gaacggcaag | 960  |
| gaatacaagt gcaaagtctc caacaaggcc ctgcctgccc ccatcgaaaa gaccatctcc  | 1020 |
| aaggccaagg gccagcctcg cgagcctcag gtgtacaccc tgcctccaag cagggaggaa  | 1080 |
| atgaccaaga accaggtgtc cctgacctgt ctggtgaagg gcttctaccc ttccgatatc  | 1140 |
| gccgtggagt gggagtccaa cggccagcct gagaacaact acaagaccac ccctcctgtg  | 1200 |
| ctggactccg acggctcctt cttcctgtac tccaagctga ccgtggacaa gtcccgggtg  | 1260 |
| cagcagggca acgtgttctc ctgctccgtg atgcacgagg ccctgcacaa ccactacacc  | 1320 |
| cagaagagcc tctccctgtc cccgggtaaa                                   | 1350 |

<210> 119

<211> 1350

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 119

|                                                                     |     |
|---------------------------------------------------------------------|-----|
| caggtccagc tgggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg | 60  |
| tcatgcaagg caagcggcgg aacatttagt gattacgtga tctcctgggt ccgacaggct   | 120 |
| ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat    | 180 |
| aacgagaagt ttaaaggcaa ggtgaccatc acagcagaca agtccacttc taccgcctac   | 240 |
| atggagctga gtcctctgcg gagcgaagac accgccgtct actattgcgc tagagattac   | 300 |
| tatgggacat ctttcgcat ggactattgg ggacagggca cactggtgac tgtctctagt    | 360 |
| gcctccacca agggcccttc cgtgttcctt ctggcccctt cctccaagtc cacctccggc   | 420 |
| ggcaccgccg ctctgggctg cctggtgaag gactacttcc ctgagcctgt gaccgtgtcc   | 480 |
| tggaactctg gcgccctgac cagcggcgtg cacaccttcc ctgccgtgct gcagtcctcc   | 540 |
| ggcctgtact ccctgtcctc cgtggtgacc gtgccttcct cctccctggg caccagacc    | 600 |
| tacatctgca acgtgaacca caagccttcc aacaccaagg tggacaagaa ggtggagcct   | 660 |
| aagtcctgcg acaagacca cacgtgccct ccatgcccag ctcccagct gctgggcgga     | 720 |

|                                                                     |      |
|---------------------------------------------------------------------|------|
| ccaagcgtgt ttctgttccc tcctaagcct aaggacaccc tgatgatctc ccggaccctt   | 780  |
| gaggtgacgt gcgtgggtgt ggacgtgtcc cagcaggacc cagaggtgaa gttcaattgg   | 840  |
| tacgtggacg gcgtggaggt gcacaacgcc aagaccaagc ctcgaggagga acagtacaac  | 900  |
| tccacctacc ggggtgggtgtc tgtgctgacc gtgctgcacc aggactggct gaacggcaag | 960  |
| gaatacaagt gcaaagtctc caacaaggcc ctgcctgccc ccatcgaaaa gaccatctcc   | 1020 |
| aaggccaagg gccagcctcg cgagcctcag gtgtacaccc tgcctccaag cagggaggaa   | 1080 |
| atgaccaaga accaggtgtc cctgacctgt ctggtgaagg gcttctaccc ttccgatatc   | 1140 |
| gccgtggagt gggagtccaa cggccagcct gagaacaact acaagaccac ccctcctgtg   | 1200 |
| ctggactccg acggctcctt cttcctgtac tccaagctga ccgtggacaa gtcccgggtg   | 1260 |
| cagcagggca acgtgttctc ctgctccgtg atgcacgagg ccctgcacaa ccactacacc   | 1320 |
| cagaagagcc tctccctgtc cccgggtaaa                                    | 1350 |

<210> 120

<211> 1350

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 120

|                                                                    |     |
|--------------------------------------------------------------------|-----|
| caggtccagc tggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg | 60  |
| tcatgcaagg caagcggcgg aacatttagt gattacgtga tctcctgggt ccgacaggct  | 120 |
| ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat   | 180 |
| aacgagaagt ttaaaggccg cgccaccatc acagcagaca agtccacttc taccgcctac  | 240 |
| atggagctga gctccctgcg gagcgaagac accgccgtct actattgcgc tagagattac  | 300 |
| tatgggacat ctttcgcat ggactattgg ggacagggca cactggtgac tgtctctagt   | 360 |
| gcctccacca agggcccttc cgtgttcctt ctggcccctt cctccaagtc cacctccggc  | 420 |
| ggcaccgccg ctctgggctg cctggtgaag gactacttcc ctgagcctgt gaccgtgtcc  | 480 |
| tggaactctg gcgccctgac cagcggcgtg cacaccttcc ctgccgtgct gcagtcctcc  | 540 |
| ggcctgtact ccctgtcctc cgtggtgacc gtgccttcct cctccctggg caccagacc   | 600 |
| tacatctgca acgtgaacca caagccttcc aacaccaagg tggacaagaa ggtggagcct  | 660 |

|                                                                     |      |
|---------------------------------------------------------------------|------|
| aagtcctgcg acaagaccca cacgtgccct ccatgccag ctcccagct gctgggcgga     | 720  |
| ccaagcgtgt ttctgttccc tcctaagcct aaggacaccc tgatgatctc ccggaccctt   | 780  |
| gaggtgacgt gcgtgggtgt ggacgtgtcc cacgaggacc cagaggtgaa gttcaattgg   | 840  |
| tacgtggacg gcgtggaggt gcacaacgcc aagaccaagc ctcgaggagga acagtacaac  | 900  |
| tccacctacc ggggtgggtgtc tgtgctgacc gtgctgcacc aggactggct gaacggcaag | 960  |
| gaatacaagt gcaaagtctc caacaaggcc ctgcctgccc ccatcgaaaa gaccatctcc   | 1020 |
| aaggccaagg gccagcctcg cgagcctcag gtgtacaccc tgcctccaag cagggaggaa   | 1080 |
| atgaccaaga accaggtgtc cctgacctgt ctggtgaagg gcttctaccc ttccgatatc   | 1140 |
| gccgtggagt gggagtccaa cggccagcct gagaacaact acaagaccac ccctcctgtg   | 1200 |
| ctggactccg acggctcctt cttcctgtac tccaagctga ccgtggacaa gtcccgggtg   | 1260 |
| cagcagggca acgtgttctc ctgctccgtg atgcacgagg ccctgcacaa ccactacacc   | 1320 |
| cagaagagcc tctccctgtc cccgggtaaa                                    | 1350 |

<210> 121

<211> 1350

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 121

|                                                                    |     |
|--------------------------------------------------------------------|-----|
| caggtccagc tggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg | 60  |
| tcatgcaagg caagcggcgg aacatttagt gattacgtga tctcctgggt ccgacaggct  | 120 |
| ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat   | 180 |
| aacgagaagt ttaaaggccg cgtgaccctg acagcagaca agtccacttc taccgcctac  | 240 |
| atggagctga gctccctgcg gagcgaagac accgccgtct actattgcgc tagagattac  | 300 |
| tatgggacat ctttcgcat ggactattgg ggacagggca cactgggtgac tgtctctagt  | 360 |
| gcctccacca agggcccttc cgtgttcctt ctggcccctt cctccaagtc cacctccggc  | 420 |
| ggcaccgccc ctctgggctg cctgggtgaag gactacttcc ctgagcctgt gaccgtgtcc | 480 |
| tggaactctg gcgccctgac cagcggcgtg cacaccttcc ctgccgtgct gcagtcctcc  | 540 |
| ggcctgtact ccctgtcctc cgtgggtgacc gtgccttcct cctccctggg caccagacc  | 600 |

|                                                                     |      |
|---------------------------------------------------------------------|------|
| tacatctgca acgtgaacca caagccttcc aacaccaagg tggacaagaa ggtggagcct   | 660  |
| aagtcctgcg acaagaccca cacgtgccct ccatgcccag ctcccagagct gctgggcgga  | 720  |
| ccaagcgtgt ttctgttccc tcctaagcct aaggacaccc tgatgatctc ccggaccctt   | 780  |
| gaggtgacgt gcgtgggtgt ggacgtgtcc cacgaggacc cagaggtgaa gttcaattgg   | 840  |
| tacgtggacg gcgtggaggt gcacaacgcc aagaccaagc ctcgaggagga acagtacaac  | 900  |
| tccacctacc ggggtgggtgtc tgtgctgacc gtgctgcacc aggactggct gaacggcaag | 960  |
| gaatacaagt gcaaagtctc caacaaggcc ctgcctgccc ccatcgaaaa gaccatctcc   | 1020 |
| aaggccaagg gccagcctcg cgagcctcag gtgtacaccc tgcctccaag caggaggagaa  | 1080 |
| atgaccaaga accaggtgtc cctgacctgt ctggtgaagg gcttctaccc ttccgatatc   | 1140 |
| gccgtggagt gggagtccaa cggccagcct gagaacaact acaagaccac ccctcctgtg   | 1200 |
| ctggactccg acggctcctt cttcctgtac tccaagctga ccgtggacaa gtcccgggtg   | 1260 |
| cagcagggca acgtgttctc ctgctccgtg atgcacgagg ccctgcacaa ccactacacc   | 1320 |
| cagaagagcc tctccctgtc cccgggtaaa                                    | 1350 |

<210> 122

<211> 1350

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 122

|                                                                      |     |
|----------------------------------------------------------------------|-----|
| caggctccagc tggctccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg | 60  |
| tcatgcaagg caagcggcgg aacatttagt gattacgtga tctcctgggt ccgacaggct    | 120 |
| ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat     | 180 |
| aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtccacttc taccgcctac    | 240 |
| atggagctga gctccctgcg gagcgaagac accgccgtct atttctgcgc tagagattac    | 300 |
| tatgggacat ctttcgcat ggactattgg ggacagggca cactggtgac tgtctctagt     | 360 |
| gcctccacca agggcccttc cgtgttcctt ctggcccctt cctccaagtc cacctccggc    | 420 |
| ggcaccgccg ctctgggctg cctggtgaag gactacttcc ctgagcctgt gaccgtgtcc    | 480 |
| tggaaactctg gcgccctgac cagcggcgtg cacaccttcc ctgccgtgct gcagtcctcc   | 540 |

|                                                                    |      |
|--------------------------------------------------------------------|------|
| ggcctgtact ccctgtcctc cgtgggtgacc gtgccttcct cctccctggg caccagacc  | 600  |
| tacatctgca acgtgaacca caagccttcc aacaccaagg tggacaagaa ggtggagcct  | 660  |
| aagtcctgcg acaagaccca cacgtgccct ccatgcccag ctcccagagct gctgggcgga | 720  |
| ccaagcgtgt ttctgttccc tcctaagcct aaggacaccc tgatgatctc ccggaccctt  | 780  |
| gaggtgacgt gcgtgggtgt ggacgtgtcc cacgaggacc cagaggtgaa gttcaattgg  | 840  |
| tacgtggacg gcgtggaggt gcacaacgcc aagaccaagc ctcgaggagga acagtacaac | 900  |
| tccacctacc ggggtggtgtc tgtgctgacc gtgctgcacc aggactggct gaacggcaag | 960  |
| gaatacaagt gcaaagtctc caacaaggcc ctgcctgccc ccatcgaaaa gaccatctcc  | 1020 |
| aaggccaagg gccagcctcg cgagcctcag gtgtacaccc tgcctccaag caggaggagaa | 1080 |
| atgaccaaga accaggtgtc cctgacctgt ctggtgaagg gcttctaccc ttccgatatc  | 1140 |
| gccgtggagt gggagtccaa cggccagcct gagaacaact acaagaccac ccctcctgtg  | 1200 |
| ctggactccg acggctcctt cttcctgtac tccaagctga ccgtggacaa gtcccgggtg  | 1260 |
| cagcagggca acgtgttctc ctgctccgtg atgcacgagg ccctgcacaa ccactacacc  | 1320 |
| cagaagagcc tctccctgtc cccgggtaaa                                   | 1350 |

<210> 123

<211> 1350

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 123

|                                                                    |     |
|--------------------------------------------------------------------|-----|
| caggtccagc tggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg | 60  |
| tcatgcaagg caagcgggta tatttttagt gattacgtga tctcctgggt ccgacaggct  | 120 |
| ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat   | 180 |
| aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtccacttc taccgcctac  | 240 |
| atggagctga gctccctgcg gagcgaagac accgccgtct actattgcgc tagagattac  | 300 |
| tatgggacat ctttcgcat ggactattgg ggacagggca cactggtgac tgtctctagt   | 360 |
| gcctccacca agggcccttc cgtgttcctt ctggcccctt cctccaagtc cacctccggc  | 420 |
| ggcaccgccc ctctgggctg cctggtgaag gactacttcc ctgagcctgt gaccgtgtcc  | 480 |

|                                                                    |      |
|--------------------------------------------------------------------|------|
| tggaactctg gcgccctgac cagcggcgtg cacaccttcc ctgccgtgct gcagtcctcc  | 540  |
| ggcctgtact ccctgtcctc cgtggtgacc gtgccttcct cctccctggg caccagacc   | 600  |
| tacatctgca acgtgaacca caagccttcc aacaccaagg tggacaagaa ggtggagcct  | 660  |
| aagtcctgcg acaagaccca cacgtgccct ccatgcccag ctcccagagct gctgggcgga | 720  |
| ccaagcgtgt ttctgttccc tcctaagcct aaggacaccc tgatgatctc ccggaccctt  | 780  |
| gaggtgacgt gcgtgggtgt ggacgtgtcc cacgaggacc cagaggtgaa gttcaattgg  | 840  |
| tacgtggacg gcgtggaggt gcacaacgcc aagaccaagc ctccgggagga acagtacaac | 900  |
| tccacctacc ggggtggtgtc tgtgctgacc gtgctgcacc aggactggct gaacggcaag | 960  |
| gaatacaagt gcaaagtctc caacaaggcc ctgcctgccc ccatcgaaaa gaccatctcc  | 1020 |
| aaggccaagg gccagcctcg cgagcctcag gtgtacaccc tgcctccaag cagggaggaa  | 1080 |
| atgaccaaga accaggtgtc cctgacctgt ctggtgaagg gcttctaccc ttccgatatc  | 1140 |
| gccgtggagt gggagtccaa cggccagcct gagaacaact acaagaccac ccctcctgtg  | 1200 |
| ctggactccg acggctcctt cttcctgtac tccaagctga ccgtggacaa gtcccgttg   | 1260 |
| cagcagggca acgtgttctc ctgctccgtg atgcacgagg ccctgcacaa ccactacacc  | 1320 |
| cagaagagcc tctccctgtc cccgggtaaa                                   | 1350 |

<210> 124

<211> 1350

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 124

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| caggtccagc tgcagcagag cggccccgaa ctggtcaaac ccggaacctc cgtgaagatg | 60  |
| ccttgtaaag cctcaggata cattttcacc gattacgtga tctcttgggt caaacagcga | 120 |
| acaggacagg gactggagtg gatcggggaa attttcccca gatccggatc tacttactat | 180 |
| aacgagaagt ttaaaggcaa ggccaccctg acagctgaca agagctccaa tacagcttac | 240 |
| atgcagctgt ctagtgtgac tagtgaagac tcagcagtct atttctgcgc cagggattac | 300 |
| tatgggacaa gttttgcat ggactattgg ggacagggca cttccgtgac cgtctcaagc  | 360 |
| gcctccacca agggcccttc cgtgttcctt ctggcccctt cctccaagtc cacctccggc | 420 |

|                                                                    |      |
|--------------------------------------------------------------------|------|
| ggcaccgccg ctctgggctg cctggtgaag gactacttcc ctgagcctgt gaccgtgtcc  | 480  |
| tggaactctg gcgccctgac cagcggcgtg cacaccttcc ctgccgtgct gcagtcctcc  | 540  |
| ggcctgtact ccctgtcctc cgtggtgacc gtgccttcct cctccctggg caccagacc   | 600  |
| tacatctgca acgtgaacca caagccttcc aacaccaagg tggacaagaa ggtggagcct  | 660  |
| aagtcctgcg acaagaccca cacgtgccct ccatgcccag ctcccagagct gctgggcgga | 720  |
| ccaagcgtgt ttctgttccc tcctaagcct aaggacaccc tgatgatctc ccggaccctt  | 780  |
| gaggtgacgt gcgtgggtgt ggacgtgtcc cacgaggacc cagaggtgaa gttcaattgg  | 840  |
| tacgtggacg gcgtggaggt gcacaacgcc aagaccaagc ctcgaggagga acagtacaac | 900  |
| tccacctacc ggggtggtgtc tgtgctgacc gtgctgcacc aggactggct gaacggcaag | 960  |
| gaatacaagt gcaaagtctc caacaaggcc ctgcctgccc ccatcgaaaa gaccatctcc  | 1020 |
| aaggccaagg gccagcctcg cgagcctcag gtgtacaccc tgcctccaag cagggaggaa  | 1080 |
| atgaccaaga accagggtgtc cctgacctgt ctggtgaagg gcttctaccc ttccgatatc | 1140 |
| gccgtggagt gggagtccaa cggccagcct gagaacaact acaagaccac ccctcctgtg  | 1200 |
| ctggactccg acggctcctt cttcctgtac tccaagctga ccgtggacaa gtcccgggtg  | 1260 |
| cagcagggca acgtgttctc ctgctccgtg atgcacgagg ccctgcacaa ccactacacc  | 1320 |
| cagaagagcc tctccctgtc cccgggtaaa                                   | 1350 |

<210> 125

<211> 1332

<212> DNA

<213> Mus musculus

<400> 125

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| caggtccaat tgcagcagtc tggacctgag ctggtgaagc ctgggacttc agtgaagatg | 60  |
| ccctgtaagg cttctggata catattcact gactatgtca taagctgggt gaagcagaga | 120 |
| actggacagg gccttgagtg gattggagag atttttccta gaagtggtag tacttactac | 180 |
| aatgagaagt tcaagggcaa ggccacactg actgcagaca aatcctcaa cacagcctac  | 240 |
| atgcagctca gcagcgtgac atctgaggac tctgcggtct atttctgtgc aagagattac | 300 |
| tacggtactt catttgctat ggactactgg ggtcaaggaa cctcagtcac cgtctcctca | 360 |
| gccaaaacga ccccccatc tgtctatcca ctggcccctg gatctgctgc ccaaactaac  | 420 |
| tccatggtga ccctgggatg cctggtcaag ggctatttcc ctgagccagt gacagtgacc | 480 |

|                                                                     |      |
|---------------------------------------------------------------------|------|
| tggaactctg gatccctgtc cagcgggtgtg cacaccttcc cagctgtcct gcagtctgac  | 540  |
| ctctacactc tgagcagctc agtgactgtc ccctccagca cctggcccag ccagaccgtc   | 600  |
| acctgcaacg ttgcccaccc ggccagcagc accaaggtgg acaagaaaat tgtgcccagg   | 660  |
| gatttgtggtt gtaagccttg catatgtaca gtcccagaag tatcatctgt cttcatcttc  | 720  |
| cccccaaagc ccaaggatgt gctcaccatt actctgactc ctaagggtcac gtgtgtttgtg | 780  |
| gtagacatca gcaaggatga tcccagagtc cagttcagct ggttttaga tgatgtggag    | 840  |
| gtgcacacag ctgagacgaa accccgggag gagcagatca acagcacttt ccgttcagtc   | 900  |
| agtgaacttc ccatcatgca ccaggactgg ctcaatggca aggagttcaa atgcagggtc   | 960  |
| aacagtgcag ctttcctgc ccccatcgag aaaaccatct ccaaaaccaa aggcagaccg    | 1020 |
| aaggctccac aggtgtacac cattccacct cccaaggagc agatggccaa ggataaagtc   | 1080 |
| agtctgacct gcatgataac aaacttcttc cctgaagaca ttactgtgga gtggcagtg    | 1140 |
| aatgggcagc cagcggagaa ctacaagaac actcagccca tcatggacac agatggctct   | 1200 |
| tacttcgtct acagcaagct caatgtgcag aagagcaact gggaggcagg aaatactttc   | 1260 |
| acctgctctg tgttacatga gggcctgcac aaccaccata ctgagaagag cctctccac    | 1320 |
| tctcctggta aa                                                       | 1332 |

<210> 126

<211> 1350

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 126

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| caggtccagc tgcagcagag cggccccgaa ctggtcaaac ccggaacctc cgtgaagatg | 60  |
| ccttgtaaag cctcaggata cattttcacc gattacgtga tctcttgggt caaacagcga | 120 |
| acaggacagg gactggagtg gatcggggaa attttccca gatccggatc tacttactat  | 180 |
| aacgagaagt ttaaaggcaa ggccaccctg acagctgaca agagctcaa tacagcttac  | 240 |
| atgcagctgt ctagtgtgac tagtgaagac tcagcagtct atttctgcgc cagggattac | 300 |
| tatgggacaa gttttgcat ggactattgg ggacagggca cttccgtgac cgtctcaagc  | 360 |
| gcctccacca agggcccttc cgtgttcct ctggcccctt cctccaagtc cacctccggc  | 420 |

|                                                                     |      |
|---------------------------------------------------------------------|------|
| ggcaccgccg ctctgggctg cctgggtgaag gactacttcc ctgagcctgt gaccgtgtcc  | 480  |
| tggaactctg gcgccctgac cagcggcgtg cacaccttcc ctgccgtgct gcagtcctcc   | 540  |
| ggcctgtact ccctgtcctc cgtgggtgacc gtgccttcct cctccctggg caccagacc   | 600  |
| tacatctgca acgtgaacca caagccttcc aacaccaagg tggacaagaa ggtggagcct   | 660  |
| aagtcctgcg acaagaccca cacgtgccct ccatgcccag ctcccagact gctgggcgga   | 720  |
| ccaagcgtgt ttctgttccc tcctaagcct aaggacaccc tgatgatctc ccggaccctt   | 780  |
| gaggtgacgt gcgtgggtgt ggacgtgtcc cacgaggacc cagaggtgaa gttcaattgg   | 840  |
| tacgtggacg gcgtggaggt gcacaacgcc aagaccaagc ctcgaggagga acagtacaac  | 900  |
| tccacctacc ggggtgggtgtc tgtgctgacc gtgctgcacc aggactggct gaacggcaag | 960  |
| gaatacaagt gcaaagtctc caacaaggcc ctgcctgccc ccatcgaaaa gaccatctcc   | 1020 |
| aaggccaagg gccagcctcg cgagcctcag gtgtacaccc tgcctccaag caggaggagaa  | 1080 |
| atgaccaaga accagggtgtc cctgacctgt ctgggtgaagg gcttctaccc ttccgatatc | 1140 |
| gccgtggagt gggagtccaa cggccagcct gagaacaact acaagaccac ccctcctgtg   | 1200 |
| ctggactccg acggctcctt cttcctgtac tccaagctga ccgtggacaa gtcccgggtg   | 1260 |
| cagcagggca acgtgttctc ctgctccgtg atgcacgagg ccctgcacaa ccactacacc   | 1320 |
| cagaagagcc tctccctgtc cccgggtaaa                                    | 1350 |

<210> 127

<211> 1341

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 127

|                                                                     |     |
|---------------------------------------------------------------------|-----|
| caggtccagc tgggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg | 60  |
| tcatgcaagg caagcggcgg aacatttagt gattacgtga tctcctgggt ccgacaggct   | 120 |
| ccaggacagg gactggagt gatgggggaa attttccta gatcaggaag cacctactat     | 180 |
| aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtccacttc taccgcctac   | 240 |
| atggagctga gtcctctgcg gagcgaagac accgccgtct actattgcgc tagagattac   | 300 |
| tatgggacat ctttcgcat ggactattgg ggacagggca cactggtgac tgtctctagt    | 360 |

|                                                                     |      |
|---------------------------------------------------------------------|------|
| gcctccacca agggcccatc cgtcttcccc ctggcgccct gctccaggag cacctccgag   | 420  |
| agcacagccg ccctgggctg cctgggtcaag gactacttcc ccgaaccggt gacgggtgtcg | 480  |
| tggaactcag gcgccctgac cagcggcgctg cacaccttcc cggctgtcct acagtcctca  | 540  |
| ggactctact ccctcagcag cgtgggtgacc gtgccctcca gcagcttggg cacgaagacc  | 600  |
| tacacgtgca acgtagatca caagcccagc aacaccaagg tggacaagag agttgagtcc   | 660  |
| aaatatggtc ccccatgccc accatgcccga gcacctgagt tcctgggggg accatcagtc  | 720  |
| ttcctgttcc ccccaaaacc caaggacact ctcatgatct cccggacccc tgagggtcacg  | 780  |
| tgcgtgggtg tggacgtgag ccaggaagac cccgaggtcc agttcaactg gtacgtggat   | 840  |
| ggcgtggagg tgcataatgc caagacaaag ccgcgggagg agcagttcaa cagcacgtac   | 900  |
| cgtgtgggtc gcgtcctcac cgtcctgcac caggactggc tgaacggcaa ggagtacaag   | 960  |
| tgcaaggtct ccaacaaagg cctcccgtcc tccatcgaga aaaccatctc caaagccaaa   | 1020 |
| gggcagcccc gagagccaca ggtgtacacc ctgcccccat cccaggagga gatgaccaag   | 1080 |
| aaccagggtc gcctgacgtg cctgggtcaaa ggcttctacc ccagcgacat cgccgtggag  | 1140 |
| tgggagagca atgggcagcc ggagaacaac tacaagacca cgcctcccgt gctggactcc   | 1200 |
| gacggctcct tcttcctcta cagcaggcta accgtggaca agagcagatg gcaggagggg   | 1260 |
| aatgtcttct catgctccgt gatgcatgag gctctgcaca accactacac acagaagagc   | 1320 |
| ctctccctgt ctctgggtaa a                                             | 1341 |

<210> 128

<211> 1341

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 128

|                                                                    |     |
|--------------------------------------------------------------------|-----|
| cagggtccagc tggtgcagtc agggcccgaa gtgaagaagc ccggaagtag tgtcaaggtc | 60  |
| ccatgtaaag catcagggtg tatttttact gattacgtga tcagctgggt caaacaggca  | 120 |
| ccaggacagg gactggagtg gatcggggaa attttccta gatcaggaag cacatactat   | 180 |
| aacgagaagt ttaaaggcaa ggccaccctg acagctgaca agtccacttc taccgcttac  | 240 |
| atggagctga gtcctctgcg gagtgaagac accgcagtgt atttctgcgc cagagattac  | 300 |

|                                                                    |      |
|--------------------------------------------------------------------|------|
| tatgggacat cctttgcaat ggactattgg ggacagggca cactggtgac tgtctctagt  | 360  |
| gcctccacca agggcccatc cgtcttcccc ctggcgccct gctccaggag cacctccgag  | 420  |
| agcacagccg ccctgggctg cctggtcaag gactacttcc ccgaaccggt gacggtgtcg  | 480  |
| tggaactcag gcgccctgac cagcggcgtg cacaccttcc cggctgtcct acagtcctca  | 540  |
| ggactctact ccctcagcag cgtggtgacc gtgccctcca gcagcttggg cacgaagacc  | 600  |
| tacacgtgca acgtagatca caagcccagc aacaccaagg tggacaagag agttgagtcc  | 660  |
| aaatatggtc ccccatgccc accatgcccga gcacctgagt tcctgggggg accatcagtc | 720  |
| ttcctgttcc ccccaaaacc caaggacact ctcatgatct cccggacccc tgaggtcacg  | 780  |
| tgcgtggtgg tggacgtgag ccaggaagac cccgaggtcc agttcaactg gtacgtggat  | 840  |
| ggcgtggagg tgcataatgc caagacaaag ccgcgggagg agcagttcaa cagcacgtac  | 900  |
| cgtgtggtca gcgtcctcac cgtcctgcac caggactggc tgaacggcaa ggagtacaag  | 960  |
| tgcaaggctc ccaacaaagg cctcccgtcc tccatcgaga aaaccatctc caaagccaaa  | 1020 |
| gggcagcccc gagagccaca ggtgtacacc ctgcccccat cccaggagga gatgaccaag  | 1080 |
| aaccagggtc gcctgacgtg cctggtcaaa ggcttctacc ccagcgacat cgccgtggag  | 1140 |
| tgggagagca atgggcagcc ggagaacaac tacaagacca cgcctcccgt gctggactcc  | 1200 |
| gacggctcct tcttcctcta cagcaggcta accgtggaca agagcagatg gcaggagggg  | 1260 |
| aatgtcttct catgctccgt gatgcatgag gctctgcaca accactacac acagaagagc  | 1320 |
| ctctccctgt ctctgggtaa a                                            | 1341 |

<210> 129

<211> 1341

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 129

|                                                                      |     |
|----------------------------------------------------------------------|-----|
| cagggtccagc tgggtccagag cggacccgaa gtgaagaaac ccggaagtag cgtgaagggtg | 60  |
| ccatgcaagg caagcggcgg aacatttagt gattacgtga tctcctgggt ccgacaggct    | 120 |
| ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat     | 180 |
| aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtccacttc taccgcctac    | 240 |

|                                                                    |      |
|--------------------------------------------------------------------|------|
| atggagctga gctccctgcg gagcgaagac accgccgtct actattgcgc tagagattac  | 300  |
| tatgggacat ctttcgccat ggactattgg ggacagggca cactggtgac tgtctctagt  | 360  |
| gcctccacca agggcccatc cgtcttcccc ctggcgccct gctccaggag cacctccgag  | 420  |
| agcacagccg ccctgggctg cctggtcaag gactacttcc ccgaaccggt gacggtgtcg  | 480  |
| tggaactcag gcgccctgac cagcggcgtg cacaccttcc cggctgtcct acagtcctca  | 540  |
| ggactctact ccctcagcag cgtggtgacc gtgccctcca gcagcttggg cacgaagacc  | 600  |
| tacacgtgca acgtagatca caagcccagc aacaccaagg tggacaagag agttgagtcc  | 660  |
| aaatatggtc ccccatgccc accatgcccga gcacctgagt tcctgggggg accatcagtc | 720  |
| ttcctgttcc ccccaaaacc caaggacact ctcatgatct cccggacccc tgaggtcacg  | 780  |
| tgcgtggtgg tggacgtgag ccaggaagac cccgaggtcc agttcaactg gtacgtggat  | 840  |
| ggcgtggagg tgcataatgc caagacaaag ccgcgggagg agcagttcaa cagcacgtac  | 900  |
| cgtgtggtca gcgtcctcac cgtcctgcac caggactggc tgaacggcaa ggagtacaag  | 960  |
| tgcaaggctc ccaacaaagg cctcccgtcc tccatcgaga aaaccatctc caaagccaaa  | 1020 |
| gggcagcccc gagagccaca ggtgtacacc ctgcccccat cccaggagga gatgaccaag  | 1080 |
| aaccagggtca gcctgacgtg cctggtcaaa ggcttctacc ccagcgacat cgccgtggag | 1140 |
| tgggagagca atgggcagcc ggagaacaac tacaagacca cgcctcccgt gctggactcc  | 1200 |
| gacggctcct tcttcctcta cagcaggcta accgtggaca agagcagatg gcaggagggg  | 1260 |
| aatgtcttct catgctccgt gatgcatgag gctctgcaca accactacac acagaagagc  | 1320 |
| ctctccctgt ctctgggtaa a                                            | 1341 |

<210> 130

<211> 1341

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 130

|                                                                     |     |
|---------------------------------------------------------------------|-----|
| caggtccagc tgggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg | 60  |
| tcatgcaagg caagcgggta tacatttagt gattacgtga tctcctgggt ccgacaggct   | 120 |
| ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat    | 180 |

|                                                                    |      |
|--------------------------------------------------------------------|------|
| aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtccacttc taccgcctac  | 240  |
| atggagctga gctccctgcg gagcgaagac accgccgtct actattgcgc tagagattac  | 300  |
| tatgggacat ctttcgccat ggactattgg ggacagggca cactggtgac tgtctctagt  | 360  |
| gcctccacca agggcccatc cgtcttcccc ctggcgccct gctccaggag cacctccgag  | 420  |
| agcacagccg ccctgggctg cctggtcaag gactacttcc ccgaaccggt gacggtgtcg  | 480  |
| tggaaactcag gcgccctgac cagcggcgtg cacaccttcc cggctgtcct acagtcctca | 540  |
| ggactctact ccctcagcag cgtggtgacc gtgccctcca gcagcttggg cacgaagacc  | 600  |
| tacacgtgca acgtagatca caagcccagc aacaccaagg tggacaagag agttgagtcc  | 660  |
| aaatatggtc ccccatgccc accatgcccga gcacctgagt tcctgggggg accatcagtc | 720  |
| ttcctgttcc ccccaaaacc caaggacact ctcatgatct cccggacccc tgaggtcacg  | 780  |
| tgcgtggtgg tggacgtgag ccaggaagac cccgaggtcc agttcaactg gtacgtggat  | 840  |
| ggcgtggagg tgcataatgc caagacaaag ccgcgggagg agcagttcaa cagcacgtac  | 900  |
| cgtgtggtca gcgtcctcac cgtcctgcac caggactggc tgaacggcaa ggagtacaag  | 960  |
| tgcaaggtct ccaacaaagg cctcccgtcc tccatcgaga aaaccatctc caaagccaaa  | 1020 |
| gggcagcccc gagagccaca ggtgtacacc ctgcccccat cccaggagga gatgaccaag  | 1080 |
| aaccaggtca gcctgacgtg cctggtcaaa ggcttctacc ccagcgacat cgccgtggag  | 1140 |
| tgggagagca atgggcagcc ggagaacaac tacaagacca cgctcccgt gctggactcc   | 1200 |
| gacggctcct tcttcctcta cagcaggcta accgtggaca agagcagatg gcaggagggg  | 1260 |
| aatgtcttct catgctccgt gatgcatgag gctctgcaca accactacac acagaagagc  | 1320 |
| ctctccctgt ctctgggtaa a                                            | 1341 |

<210> 131

<211> 1341

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 131

|                                                                     |    |
|---------------------------------------------------------------------|----|
| caggtccagc tgggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg | 60 |
|---------------------------------------------------------------------|----|

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| tcatgcaagg caagcggcgg aatttttagt gattacgtga tctcctgggt ccgacaggct | 120 |
|-------------------------------------------------------------------|-----|

|                                                                    |      |
|--------------------------------------------------------------------|------|
| ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat   | 180  |
| aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtcacttc taccgcctac   | 240  |
| atggagctga gctccctgcg gagcgaagac accgccgtct actattgcgc tagagattac  | 300  |
| tatgggacat ctttcgccat ggactattgg ggacagggca cactggtgac tgtctctagt  | 360  |
| gcctccacca agggcccatc cgtcttcccc ctggcgccct gctccaggag cacctccgag  | 420  |
| agcacagccg ccctgggctg cctggtcaag gactacttcc ccgaaccggt gacggtgtcg  | 480  |
| tggaactcag gcgccctgac cagcggcgtg cacaccttcc cggctgtcct acagtcctca  | 540  |
| ggactctact ccctcagcag cgtggtgacc gtgccctcca gcagcttggg cacgaagacc  | 600  |
| tacacgtgca acgtagatca caagcccagc aacaccaagg tggacaagag agttgagtcc  | 660  |
| aaatatggtc ccccatgccc accatgcccga gcacctgagt tcctgggggg accatcagtc | 720  |
| ttcctgttcc ccccaaaacc caaggacact ctcatgatct cccggacccc tgaggtcacg  | 780  |
| tgcgtgggtg tggacgtgag ccaggaagac cccgaggtcc agttcaactg gtacgtggat  | 840  |
| ggcgtggagg tgcataatgc caagacaaag ccgcgggagg agcagttcaa cagcacgtac  | 900  |
| cgtgtggtca gcgtcctcac cgtcctgcac caggactggc tgaacggcaa ggagtacaag  | 960  |
| tgcaaggtct ccaacaaagg cctcccgtcc tccatcgaga aaaccatctc caaagccaaa  | 1020 |
| gggcagcccc gagagccaca ggtgtacacc ctgcccccat cccaggagga gatgaccaag  | 1080 |
| aaccaggtca gcctgacgtg cctggtcaaa ggcttctacc ccagcgacat cgccgtggag  | 1140 |
| tgggagagca atgggcagcc ggagaacaac tacaagacca cgcctcccgt gctggactcc  | 1200 |
| gacggctcct tcttcctcta cagcaggcta accgtggaca agagcagatg gcaggagggg  | 1260 |
| aatgtcttct catgctccgt gatgcatgag gctctgcaca accactacac acagaagagc  | 1320 |
| ctctccctgt ctctgggtaa a                                            | 1341 |

<210> 132

<211> 1341

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polynucleotide

<400> 132

|                                                                     |    |
|---------------------------------------------------------------------|----|
| caggctccagc tgggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaaggtg | 60 |
|---------------------------------------------------------------------|----|

|                                                                    |      |
|--------------------------------------------------------------------|------|
| tcatgcaagg caagcggcgg aacatttact gattacgtga tctcctgggt ccgacaggct  | 120  |
| ccaggacagg gactggagt gatgggggaa attttccta gatcaggaag cacctactat    | 180  |
| aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtccacttc taccgcctac  | 240  |
| atggagctga gctccctgcg gagcgaagac accgccgtct actattgcgc tagagattac  | 300  |
| tatgggacat ctttcgcat ggactattgg ggacagggca cactggtgac tgtctctagt   | 360  |
| gcctccacca agggcccatc cgtcttcccc ctggcgccct gctccaggag cacctccgag  | 420  |
| agcacagccg ccctgggctg cctggtcaag gactacttcc ccgaaccggt gacggtgtcg  | 480  |
| tggaactcag gcgccctgac cagcggcgtg cacaccttcc cggctgtcct acagtcctca  | 540  |
| ggactctact ccctcagcag cgtggtgacc gtgccctcca gcagcttggg cacgaagacc  | 600  |
| tacacgtgca acgtagatca caagcccagc aacaccaagg tggacaagag agttgagtcc  | 660  |
| aaatatggtc ccccatgccc accatgcccga gcacctgagt tcctgggggg accatcagtc | 720  |
| ttcctgttcc ccccaaaacc caaggacact ctcatgatct cccggacccc tgaggtcacg  | 780  |
| tgcgtgggtg tggacgtgag ccaggaagac ccgaggtcc agttcaactg gtacgtggat   | 840  |
| ggcgtggagg tgcataatgc caagacaaag ccgcgggagg agcagttcaa cagcacgtac  | 900  |
| cgtgtggtca gcgtcctcac cgtcctgcac caggactggc tgaacggcaa ggagtacaag  | 960  |
| tgcaaggctc ccaacaaagg cctcccgtcc tccatcgaga aaaccatctc caaagccaaa  | 1020 |
| gggcagcccc gagagccaca ggtgtacacc ctgcccccat ccaggagga gatgaccaag   | 1080 |
| aaccaggctca gcctgacgtg cctggtcaaa ggcttctacc ccagcgacat cgccgtggag | 1140 |
| tgggagagca atgggcagcc ggagaacaac tacaagacca cgcctcccgt gctggactcc  | 1200 |
| gacggctcct tcttcctcta cagcaggcta accgtggaca agagcagatg gcaggagggg  | 1260 |
| aatgtcttct catgctccgt gatgcatgag gctctgcaca accactacac acagaagagc  | 1320 |
| ctctccctgt ctctgggtaa a                                            | 1341 |

<210> 133

<211> 1341

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 133

|                                                                     |      |
|---------------------------------------------------------------------|------|
| caggtccagc tgggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg | 60   |
| tcatgcaagg caagcggcgg aacatttagt gattacgtga tctcctgggt caaacaggct   | 120  |
| ccaggacagg gactggagtg gatgggggaa attttcccta gatcaggaag cacctactat   | 180  |
| aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtccacttc taccgcctac   | 240  |
| atggagctga gtcctctgcg gagcgaagac accgccgtct actattgcgc tagagattac   | 300  |
| tatgggacat ctttcgcat ggactattgg ggacagggca cactggtgac tgtctctagt    | 360  |
| gcctccacca agggcccatc cgtcttcccc ctggcgccct gctccaggag cacctccgag   | 420  |
| agcacagccg ccctgggctg cctggtcaag gactacttcc ccgaaccggt gacggtgtcg   | 480  |
| tggaactcag gcgccctgac cagcggcgtg cacaccttcc cggctgtcct acagtcctca   | 540  |
| ggactctact ccctcagcag cgtggtgacc gtgccctcca gcagcttggg cacgaagacc   | 600  |
| tacacgtgca acgtagatca caagcccagc aacaccaagg tggacaagag agttgagtcc   | 660  |
| aaatatggtc ccccatgccc accatgccc a gcacctgagt tcctgggggg accatcagtc  | 720  |
| ttcctgttcc ccccaaaacc caaggacact ctcatgatct cccggacccc tgaggtcacg   | 780  |
| tgcgtggtgg tggacgtgag ccaggaagac cccgaggtcc agttcaactg gtacgtggat   | 840  |
| ggcgtggagg tgcataatgc caagacaaag ccgcgggagg agcagttcaa cagcacgtac   | 900  |
| cgtgtggtca gcgtcctcac cgtcctgcac caggactggc tgaacggcaa ggagtacaag   | 960  |
| tgcaaggctc ccaacaaagg cctcccgtcc tccatcgaga aaaccatctc caaagccaaa   | 1020 |
| gggcagcccc gagagccaca ggtgtacacc ctgcccccat cccaggagga gatgaccaag   | 1080 |
| aaccagggtca gcctgacgtg cctggtcaaa ggcttctacc ccagcgacat cgccgtggag  | 1140 |
| tgggagagca atgggcagcc ggagaacaac tacaagacca cgcctcccgt gctggactcc   | 1200 |
| gacggctcct tcttcctcta cagcaggcta accgtggaca agagcagatg gcaggagggg   | 1260 |
| aatgtcttct catgctccgt gatgcatgag gctctgcaca accactacac acagaagagc   | 1320 |
| ctctccctgt ctctgggtaa a                                             | 1341 |

<210> 134

<211> 1341

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 134  
caggtccagc tggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggt 60  
tcattgcaagg caagcggcgg aacatttagt gattacgtga tctcctgggt ccgacaggct 120  
ccaggacagg gactggagtg gatcggggaa attttccta gatcaggaag cacctactat 180  
aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtccacttc taccgcctac 240  
atggagctga gctccctgcg gagcgaagac accgccgtct actattgctc tagagattac 300  
tatgggacat ctttcgcat ggactattgg ggacagggca cactgggtgac tgtctctagt 360  
gcctccacca agggcccatc cgtcttcccc ctggcgccct gctccaggag cacctccgag 420  
agcacagccg ccctgggctg cctgggtcaag gactacttcc ccgaaccggt gacgggtgtcg 480  
tggaactcag gcgccctgac cagcggcgtg cacaccttcc cggctgtcct acagtcctca 540  
ggactctact ccctcagcag cgtgggtgacc gtgccctcca gcagcttggg cacgaagacc 600  
tacacgtgca acgtagatca caagcccagc aacaccaagg tggacaagag agttgagtcc 660  
aaatatggtc ccccatgccc accatgccc a gcacctgagt tcctgggggg accatcagtc 720  
ttcctgttcc ccccaaaacc caaggacact ctcatgatct cccggacccc tgagggtcacg 780  
tgcgtgggtg tggacgtgag ccaggaagac cccgaggtcc agttcaactg gtacgtggat 840  
ggcgtggagg tgcataatgc caagacaaag ccgcgggagg agcagttcaa cagcacgtac 900  
cgtgtgggtc gcgtcctcac cgtcctgcac caggactggc tgaacggcaa ggagtacaag 960  
tgcaagggtc ccaacaaagg cctcccgtcc tccatcgaga aaaccatctc caaagccaaa 1020  
gggcagcccc gagagccaca ggtgtacacc ctgcccccat cccaggagga gatgaccaag 1080  
aaccagggtc gcctgacgtg cctgggtcaaa ggcttctacc ccagcgacat cgccgtggag 1140  
tgggagagca atgggcagcc ggagaacaac tacaagacca cgcctcccgt gctggactcc 1200  
gacggctcct tcttcctcta cagcaggcta accgtggaca agagcagatg gcaggagggg 1260  
aatgtcttct catgctccgt gatgcatgag gctctgcaca accactacac acagaagagc 1320  
ctctccctgt ctctgggtaa a 1341

<210> 135

<211> 1341

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 135

|                                                                     |      |
|---------------------------------------------------------------------|------|
| caggtccagc tggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg  | 60   |
| tcatgcaagg caagcggcgg aacatttagt gattacgtga tctcctgggt ccgacaggct   | 120  |
| ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat    | 180  |
| aacgagaagt ttaaaggcaa ggtgaccatc acagcagaca agtccacttc taccgcctac   | 240  |
| atggagctga gtccttgcg gagcgaagac accgccgtct actattgcgc tagagattac    | 300  |
| tatgggacat ctttcgcat ggactattgg ggacagggca cactgggtgac tgtctctagt   | 360  |
| gcctccacca agggcccatc cgtcttcccc ctggcgccct gctccaggag cacctccgag   | 420  |
| agcacagccg ccctgggctg cctgggtcaag gactacttcc ccgaaccggt gacggtgtcg  | 480  |
| tggaactcag gcgccctgac cagcggcgtg cacaccttcc cggctgtcct acagtcctca   | 540  |
| ggactctact ccctcagcag cgtgggtgacc gtgccctcca gcagcttggg cacgaagacc  | 600  |
| tacacgtgca acgtagatca caagcccagc aacaccaagg tggacaagag agttgagtcc   | 660  |
| aaatatggtc ccccatgccc accatgcccga gcacctgagt tcctgggggg accatcagtc  | 720  |
| ttcctgttcc ccccaaaacc caaggacact ctcattgatct cccggacccc tgaggtcacg  | 780  |
| tgcgtgggtg tggacgtgag ccaggaagac cccgaggtcc agttcaactg gtacgtggat   | 840  |
| ggcgtggagg tgcataatgc caagacaaag ccgcgggagg agcagttcaa cagcacgtac   | 900  |
| cgtgtgggtca gcgtcctcac cgtcctgcac caggactggc tgaacggcaa ggagtacaag  | 960  |
| tgcaagggtct ccaacaaagg cctcccgtcc tccatcgaga aaaccatctc caaagccaaa  | 1020 |
| gggcagcccc gagagccaca ggtgtacacc ctgcccccat ccagaggaga gatgaccaag   | 1080 |
| aaccagggtca gcctgacgtg cctgggtcaaa ggcttctacc ccagcgacat cgccgtggag | 1140 |
| tgggagagca atgggcagcc ggagaacaac tacaagacca cgcctcccgt gctggactcc   | 1200 |
| gacggctcct tcttcctcta cagcaggcta accgtggaca agagcagatg gcaggagggg   | 1260 |
| aatgtcttct catgctccgt gatgcatgag gctctgcaca accactacac acagaagagc   | 1320 |
| ctctccctgt ctctgggtaa a                                             | 1341 |

<210> 136

<211> 1341

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 136

|             |             |             |            |            |             |      |
|-------------|-------------|-------------|------------|------------|-------------|------|
| caggtccagc  | tggtccagag  | cggagcagaa  | gtgaagaaac | ccggaagtag | cgtgaagggtg | 60   |
| tcatgcaagg  | caagcggcgg  | aacatttagt  | gattacgtga | tctcctgggt | ccgacaggct  | 120  |
| ccaggacagg  | gactggagt   | gatgggggaa  | attttcccta | gatcaggaag | cacctactat  | 180  |
| aacgagaagt  | ttaaaggccg  | cgccaccatc  | acagcagaca | agtccacttc | taccgcctac  | 240  |
| atggagctga  | gctccctgcg  | gagcgaagac  | accgccgtct | actattgcgc | tagagattac  | 300  |
| tatgggacat  | ctttcgccat  | ggactattgg  | ggacagggca | cactggtgac | tgtctctagt  | 360  |
| gcctccacca  | agggcccatc  | cgtcttcccc  | ctggcgccct | gctccaggag | cacctccgag  | 420  |
| agcacagccg  | ccctgggctg  | cctgggtcaag | gactacttcc | ccgaaccggt | gacggtgtcg  | 480  |
| tggaactcag  | gcgccctgac  | cagcggcgtg  | cacaccttcc | cggctgtcct | acagtcctca  | 540  |
| ggactctact  | ccctcagcag  | cgtggtgacc  | gtgccctcca | gcagcttggg | cacgaagacc  | 600  |
| tacacgtgca  | acgtagatca  | caagcccagc  | aacaccaagg | tggacaagag | agttgagtcc  | 660  |
| aaatatggtc  | ccccatgccc  | accatgccc   | gcacctgagt | tcctgggggg | accatcagtc  | 720  |
| ttcctgttcc  | ccccaaaacc  | caaggacact  | ctcatgatct | cccggacccc | tgaggtcacg  | 780  |
| tgcggtgggtg | tggtacgtgag | ccaggaagac  | cccaggtcc  | agttcaactg | gtacgtggat  | 840  |
| ggcgtggagg  | tgcataatgc  | caagacaaa   | ccgcgggagg | agcagttcaa | cagcacgtac  | 900  |
| cgtgtgggtca | gcgtcctcac  | cgtcctgcac  | caggactggc | tgaacggcaa | ggagtacaag  | 960  |
| tgcaagggtct | ccaacaaaagg | cctcccgtcc  | tccatcgaga | aaaccatctc | caaagccaaa  | 1020 |
| gggcagcccc  | gagagccaca  | ggtgtacacc  | ctgcccccat | cccaggagga | gatgaccaag  | 1080 |
| aaccagggtca | gcctgacgtg  | cctgggtcaaa | ggcttctacc | ccagcgacat | cgccgtggag  | 1140 |
| tgggagagca  | atgggcagcc  | ggagaacaac  | tacaagacca | cgcctcccgt | gctggactcc  | 1200 |
| gacggctcct  | tcttcctcta  | cagcaggcta  | accgtggaca | agagcagatg | gcaggagggg  | 1260 |
| aatgtcttct  | catgctccgt  | gatgcatgag  | gctctgcaca | accactacac | acagaagagc  | 1320 |
| ctctccctgt  | ctctgggtaa  | a           |            |            |             | 1341 |

<210> 137

<211> 1341

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 137

|            |            |             |            |             |             |      |
|------------|------------|-------------|------------|-------------|-------------|------|
| caggtccagc | tggtccagag | cggagcagaa  | gtgaagaaac | ccggaagtag  | cgtgaagggtg | 60   |
| tcatgcaagg | caagcggcgg | aacatttagt  | gattacgtga | tctcctgggt  | ccgacaggct  | 120  |
| ccaggacagg | gactggagt  | gatgggggaa  | attttcccta | gatcaggaag  | cacctactat  | 180  |
| aacgagaagt | ttaaaggccg | cgtgaccctg  | acagcagaca | agtccacttc  | taccgcctac  | 240  |
| atggagctga | gctccctgcg | gagcgaagac  | accgccgtct | actattgcgc  | tagagattac  | 300  |
| tatgggacat | ctttcgccat | ggactattgg  | ggacagggca | cactgggtgac | tgtctctagt  | 360  |
| gcctccacca | agggcccatc | cgtcttcccc  | ctggcgccct | gctccaggag  | cacctccgag  | 420  |
| agcacagccg | ccctgggctg | cctgggtcaag | gactacttcc | ccgaaccggt  | gacggtgtcg  | 480  |
| tggaactcag | gcgccctgac | cagcggcgtg  | cacaccttcc | cggctgtcct  | acagtcctca  | 540  |
| ggactctact | ccctcagcag | cgtgggtgacc | gtgccctcca | gcagcttggg  | cacgaagacc  | 600  |
| tacacgtgca | acgtagatca | caagcccagc  | aacaccaagg | tggacaagag  | agttgagtcc  | 660  |
| aaatatggtc | ccccatgccc | accatgccc   | gcacctgagt | tcctgggggg  | accatcagtc  | 720  |
| ttcctgttcc | ccccaaaacc | caaggacact  | ctcatgatct | cccggacccc  | tgaggtcacg  | 780  |
| tgcgtgggtg | tggacgtgag | ccaggaagac  | cccaggttcc | agttcaactg  | gtacgtggat  | 840  |
| ggcgtggagg | tgcataatgc | caagacaaa   | ccgcgggagg | agcagttcaa  | cagcacgtac  | 900  |
| cgtgtgggtc | gcgtcctcac | cgtcctgcac  | caggactggc | tgaacggcaa  | ggagtacaag  | 960  |
| tgcaagggtc | ccaacaaa   | cctcccgtcc  | tccatcgaga | aaaccatctc  | caaagccaaa  | 1020 |
| gggcagcccc | gagagccaca | ggtgtacacc  | ctgcccccat | cccaggagga  | gatgaccaag  | 1080 |
| aaccagggtc | gcctgacgtg | cctgggtcaaa | ggcttctacc | ccagcgacat  | cgccgtggag  | 1140 |
| tgggagagca | atgggcagcc | ggagaacaac  | tacaagacca | cgcctcccgt  | gctggactcc  | 1200 |
| gacggctcct | tcttcctcta | cagcaggcta  | accgtggaca | agagcagatg  | gcaggagggg  | 1260 |
| aatgtcttct | catgctccgt | gatgcatgag  | gctctgcaca | accactacac  | acagaagagc  | 1320 |
| ctctccctgt | ctctgggtaa | a           |            |             |             | 1341 |

<210> 138  
 <211> 1341  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 138  
 caggtccagc tgggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg 60  
 tcatgcaagg caagcggcgg aacatttagt gattacgtga tctcctgggt ccgacaggct 120  
 ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat 180  
 aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtcacttc taccgcctac 240  
 atggagctga gctccctgcg gagcgaagac accgccgtct atttctgcgc tagagattac 300  
 tatgggacat ctttcgcat ggactattgg ggacagggca cactggtgac tgtctctagt 360  
 gcctccacca agggcccatc cgtcttcccc ctggcgccct gctccaggag cacctccgag 420  
 agcacagccg ccctgggctg cctgggtcaag gactacttcc ccgaaccggt gacggtgtcg 480  
 tggaactcag gcgccctgac cagcggcgtg cacaccttcc cggctgtcct acagtcctca 540  
 ggactctact ccctcagcag cgtgggtgacc gtgccctcca gcagcttggg cacgaagacc 600  
 tacacgtgca acgtagatca caagcccagc aacaccaagg tggacaagag agttgagtcc 660  
 aaatatggtc ccccatgccc accatgccc gcacctgagt tcctgggggg accatcagtc 720  
 ttctgttcc ccccaaaacc caaggacact ctcatgatct cccggacccc tgaggtcacg 780  
 tgcgtgggtg tggacgtgag ccaggaagac cccgaggtcc agttcaactg gtacgtggat 840  
 ggcgtggagg tgcataatgc caagacaaag ccgcgggagg agcagttcaa cagcacgtac 900  
 cgtgtggtca gcgtcctcac cgtcctgcac caggactggc tgaacggcaa ggagtacaag 960  
 tgcaaggtct ccaacaaagg cctcccgtcc tccatcgaga aaaccatctc caaagccaaa 1020  
 gggcagcccc gagagccaca ggtgtacacc ctgcccccat cccaggagga gatgaccaag 1080  
 aaccagggtc gcctgacgtg cctgggtcaaa ggcttctacc ccagcgacat cgccgtggag 1140  
 tgggagagca atgggcagcc ggagaacaac tacaagacca cgcctcccgt gctggactcc 1200  
 gacggctcct tcttcctcta cagcaggcta accgtggaca agagcagatg gcaggagggg 1260  
 aatgtcttct catgctccgt gatgcatgag gctctgcaca accactacac acagaagagc 1320  
 ctctccctgt ctctgggtaa a 1341

<210> 139  
 <211> 1341  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 139  
 caggtccagc tgggtccagag cggagcagaa gtgaagaaac ccggaagtag cgtgaagggtg 60  
 tcatgcaagg caagcgggta tatttttagt gattacgtga tctcctgggt ccgacaggct 120  
 ccaggacagg gactggagtg gatgggggaa attttccta gatcaggaag cacctactat 180  
 aacgagaagt ttaaaggccg cgtgaccatc acagcagaca agtccacttc taccgcctac 240  
 atggagctga gtcctctgcg gagcgaagac accgccgtct actattgcgc tagagattac 300  
 tatgggacat ctttcgcat ggactattgg ggacagggca cactggtgac tgtctctagt 360  
 gcctccacca agggcccatc cgtcttcccc ctggcgccct gctccaggag cacctccgag 420  
 agcacagccg ccctgggctg cctggtcaag gactacttcc ccgaaccggt gacggtgtcg 480  
 tggaactcag gcgccctgac cagcggcgtg cacaccttcc cggctgtcct acagtcctca 540  
 ggactctact ccctcagcag cgtggtgacc gtgccctcca gcagcttggg cacgaagacc 600  
 tacacgtgca acgtagatca caagcccagc aacaccaagg tggacaagag agttgagtcc 660  
 aaatatggtc ccccatgccc accatgcccga gcacctgagt tcctgggggg accatcagtc 720  
 ttcctgttcc ccccaaaacc caaggacact ctcatgatct cccggacccc tgaggtcacg 780  
 tgcgtggtgg tggacgtgag ccaggaagac cccgaggtcc agttcaactg gtacgtggat 840  
 ggctgaggagg tgcataatgc caagacaaag ccgcgggagg agcagttcaa cagcacgtac 900  
 cgtgtggtca gcgtcctcac cgtcctgcac caggactggc tgaacggcaa ggagtacaag 960  
 tgcaaggctc ccaacaaagg cctcccgtcc tccatcgaga aaaccatctc caaagccaaa 1020  
 gggcagcccc gagagccaca ggtgtacacc ctgcccccat cccaggagga gatgaccaag 1080  
 aaccaggtca gcctgacgtg cctggtcaaa ggcttctacc ccagcgacat cgccgtggag 1140  
 tgggagagca atgggcagcc ggagaacaac tacaagacca cgcctcccgt gctggactcc 1200  
 gacggctcct tcttcctcta cagcaggcta accgtggaca agagcagatg gcaggagggg 1260  
 aatgtcttct catgctccgt gatgcatgag gctctgcaca accactacac acagaagagc 1320

ctctccctgt ctctgggtaa a

1341

<210> 140

<211> 1341

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 140

|                                                                    |      |
|--------------------------------------------------------------------|------|
| caggtccagc tgcagcagag cggccccgaa ctggtcaaac ccggaacctc cgtgaagatg  | 60   |
| ccttgtaaag cctcaggata cattttcacc gattacgtga tctcttgggt caaacagcga  | 120  |
| acaggacagg gactggagtg gatcggggaa attttcccca gatccggatc tacttactat  | 180  |
| aacgagaagt ttaaaggcaa ggccaccctg acagctgaca agagctcaa tacagcttac   | 240  |
| atgcagctgt ctagtgtgac tagtgaagac tcagcagtct atttctgcgc cagggattac  | 300  |
| tatgggacaa gttttgccat ggactattgg ggacagggca cttccgtgac cgtctcaagc  | 360  |
| gcctccacca agggcccatc cgtcttcccc ctggcgccct gctccaggag cacctccgag  | 420  |
| agcacagccg ccctgggctg cctggtcaag gactacttcc ccgaaccggt gacggtgtcg  | 480  |
| tggaactcag gcgccctgac cagcggcgtg cacaccttcc cggctgtcct acagtcctca  | 540  |
| ggactctact ccctcagcag cgtggtgacc gtgccctcca gcagcttggg cacgaagacc  | 600  |
| tacacgtgca acgtagatca caagcccagc aacaccaagg tggacaagag agttgagtcc  | 660  |
| aaatatggtc ccccatgccc accatgcccga gcacctgagt tcctgggggg accatcagtc | 720  |
| ttcctgttcc ccccaaaacc caaggacact ctcatgatct cccggacccc tgaggtcacg  | 780  |
| tgcgtgggtg tggacgtgag ccaggaagac ccgaggtcc agttcaactg gtacgtggat   | 840  |
| ggcgtggagg tgcataatgc caagacaaag ccgcgggagg agcagttcaa cagcacgtac  | 900  |
| cgtgtggtca gcgtcctcac cgtcctgcac caggactggc tgaacggcaa ggagtacaag  | 960  |
| tgcaaggctc ccaacaaagg cctcccgtcc tccatcgaga aaaccatctc caaagccaaa  | 1020 |
| gggcagcccc gagagccaca ggtgtacacc ctgcccccat ccaggagga gatgaccaag   | 1080 |
| aaccaggtca gcctgacgtg cctggtcaaa ggcttctacc ccagcgacat cgccgtggag  | 1140 |
| tgggagagca atgggcagcc ggagaacaac tacaagacca cgcctcccgt gctggactcc  | 1200 |
| gacggctcct tcttcctcta cagcaggcta accgtggaca agagcagatg gcaggagggg  | 1260 |

|                                                                   |      |
|-------------------------------------------------------------------|------|
| aatgtcttct catgctccgt gatgcatgag gctctgcaca accactacac acagaagagc | 1320 |
| ctctccctgt ctctgggtaa a                                           | 1341 |

<210> 141  
 <211> 657  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic polynucleotide

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| <400> 141                                                         |     |
| gacatcgtga tgacacagtc cccactgtct ctgcccgtca ctcttgggga gccagcatct | 60  |
| attagttgca agagctccca gagtctgctg aactcacgga ccagaaagaa ttacctggcc | 120 |
| tggtatctgc agaaaccgg acagagccct cagctgctga tctactgggc tagcaccagg  | 180 |
| gaatccggag tgccagaccg cttcacagga tcaggaagcg gaaccgattt tacactgaag | 240 |
| atcagccggg tggaggccga agatgtgggc gtctactatt gtaaacagtc cttctatctg | 300 |
| agaacttttg gccaggggac caaggtggag atcaaaagaa ctgtggcagc accaagcgtc | 360 |
| ttcatcttcc cgccatctga tgagcagttg aaatctggaa ctgcctctgt tgtgtgcctg | 420 |
| ctgaataact tctatcccag agaggccaaa gtacagtgga aggtggataa cgccctccaa | 480 |
| tcgggtaact cccaggagag tgtcacagag caggacagca aggacagcac ctacagcctc | 540 |
| agcagcacc tgacgctgag caaagcagac tacgagaaac acaaagtcta cgcctgcgaa  | 600 |
| gtcacccatc agggcctgag ctgcccgtc acaaagagct tcaacagggg agagtgt     | 657 |

<210> 142  
 <211> 657  
 <212> DNA  
 <213> Artificial Sequence

<220>  
 <223> Description of Artificial Sequence: Synthetic polynucleotide

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| <400> 142                                                         |     |
| gacatcgtga tgtctcagag tccactgtct ctgccagtca cccctggaga gccagcatca | 60  |
| attagctgca agagctccca gagtctgctg aactcacgga caagaaagaa ttacctggcc | 120 |
| tggtatctgc agaaaccgg acagagccct cagctgctga tctactgggc tagcacaagg  | 180 |

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| gaatccggag tgccagaccg cttcactgga tccggatctg gaaccgattt tacactgaag | 240 |
| atcagccggg tggaggccga agatgtgggc gtctactatt gtaaacagag tttctatctg | 300 |
| agaacttttg gccaggggac caaggtggag atcaaaagaa ctgtggcagc accaagcgtc | 360 |
| ttcatcttcc cgccatctga tgagcagttg aaatctggaa ctgcctctgt tgtgtgcctg | 420 |
| ctgaataact tctatcccag agaggccaaa gtacagtgga aggtggataa cgccctccaa | 480 |
| tcgggtaact cccaggagag tgtcacagag caggacagca aggacagcac ctacagcctc | 540 |
| agcagcacc tgacgctgag caaagcagac tacgagaaac acaaagtcta cgcctgcgaa  | 600 |
| gtcacccatc agggcctgag ctcgcccgtc acaaagagct tcaacagggg agagtgt    | 657 |

<210> 143

<211> 657

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polynucleotide

<400> 143

|                                                                   |     |
|-------------------------------------------------------------------|-----|
| gatattgtca tgtcacagtc accttcatcc ctggcagtca ggcgggaga aaaagtcact  | 60  |
| atgtcttgta agtcttcaca gagcctgctg aactcccga ccagaaagaa ttacctggca  | 120 |
| tggtatcagc agaagcccgg ccagtctcct aaactgctga tctactgggc atcaacaagg | 180 |
| gagagcggag tgccagaccg cttcacaggc tctgggagtg gaactgattt taccctgaca | 240 |
| attagctccg tgcaggccga agacctggct gtctactatt gcaaacagag cttctatctg | 300 |
| cgaacttttg gcgggggaac caagctggat atcaaaagaa ctgtggcagc accaagcgtc | 360 |
| ttcatcttcc cgccatctga tgagcagttg aaatctggaa ctgcctctgt tgtgtgcctg | 420 |
| ctgaataact tctatcccag agaggccaaa gtacagtgga aggtggataa cgccctccaa | 480 |
| tcgggtaact cccaggagag tgtcacagag caggacagca aggacagcac ctacagcctc | 540 |
| agcagcacc tgacgctgag caaagcagac tacgagaaac acaaagtcta cgcctgcgaa  | 600 |
| gtcacccatc agggcctgag ctcgcccgtc acaaagagct tcaacagggg agagtgt    | 657 |

<210> 144

<211> 8

<212> PRT

<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic peptide

<400> 144  
Lys Val Gln Ile Ile Asn Lys Lys  
1 5

<210> 145  
<211> 29  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic peptide

<400> 145  
Ile Lys His Val Pro Gly Gly Gly Ser Val Gln Ile Val Tyr Lys Pro  
1 5 10 15

Val Asp Leu Ser Lys Val Thr Ser Lys Cys Gly Ser Leu  
20 25

<210> 146  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic peptide

<400> 146  
Val Gln Ile Val Tyr Lys  
1 5

<210> 147  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic peptide

<400> 147  
Val Gln Ile Ile Asn Lys  
1 5

<210> 148  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 148  
His Gln Pro Gly Gly Gly  
1 5

<210> 149  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 149  
His Val Pro Gly Gly Gly  
1 5

<210> 150  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 150  
His Lys Pro Gly Gly Gly  
1 5

<210> 151  
<211> 441  
<212> PRT  
<213> Homo sapiens

<400> 151  
Met Ala Glu Pro Arg Gln Glu Phe Glu Val Met Glu Asp His Ala Gly  
1 5 10 15

Thr Tyr Gly Leu Gly Asp Arg Lys Asp Gln Gly Gly Tyr Thr Met His  
20 25 30

Gln Asp Gln Glu Gly Asp Thr Asp Ala Gly Leu Lys Glu Ser Pro Leu  
35 40 45

Gln Thr Pro Thr Glu Asp Gly Ser Glu Glu Pro Gly Ser Glu Thr Ser  
50 55 60

Asp Ala Lys Ser Thr Pro Thr Ala Glu Asp Val Thr Ala Pro Leu Val  
65 70 75 80

Asp Glu Gly Ala Pro Gly Lys Gln Ala Ala Ala Gln Pro His Thr Glu  
85 90 95

Ile Pro Glu Gly Thr Thr Ala Glu Glu Ala Gly Ile Gly Asp Thr Pro  
100 105 110

Ser Leu Glu Asp Glu Ala Ala Gly His Val Thr Gln Ala Arg Met Val  
115 120 125

Ser Lys Ser Lys Asp Gly Thr Gly Ser Asp Asp Lys Lys Ala Lys Gly  
130 135 140

Ala Asp Gly Lys Thr Lys Ile Ala Thr Pro Arg Gly Ala Ala Pro Pro  
145 150 155 160

Gly Gln Lys Gly Gln Ala Asn Ala Thr Arg Ile Pro Ala Lys Thr Pro  
165 170 175

Pro Ala Pro Lys Thr Pro Pro Ser Ser Gly Glu Pro Pro Lys Ser Gly  
180 185 190

Asp Arg Ser Gly Tyr Ser Ser Pro Gly Ser Pro Gly Thr Pro Gly Ser  
195 200 205

Arg Ser Arg Thr Pro Ser Leu Pro Thr Pro Pro Thr Arg Glu Pro Lys  
210 215 220

Lys Val Ala Val Val Arg Thr Pro Pro Lys Ser Pro Ser Ser Ala Lys  
225 230 235 240

Ser Arg Leu Gln Thr Ala Pro Val Pro Met Pro Asp Leu Lys Asn Val  
245 250 255

Lys Ser Lys Ile Gly Ser Thr Glu Asn Leu Lys His Gln Pro Gly Gly  
260 265 270

Gly Lys Val Gln Ile Ile Asn Lys Lys Leu Asp Leu Ser Asn Val Gln  
275 280 285

Ser Lys Cys Gly Ser Lys Asp Asn Ile Lys His Val Pro Gly Gly Gly  
290 295 300

Ser Val Gln Ile Val Tyr Lys Pro Val Asp Leu Ser Lys Val Thr Ser  
 305 310 315 320

Lys Cys Gly Ser Leu Gly Asn Ile His His Lys Pro Gly Gly Gly Gln  
 325 330 335

Val Glu Val Lys Ser Glu Lys Leu Asp Phe Lys Asp Arg Val Gln Ser  
 340 345 350

Lys Ile Gly Ser Leu Asp Asn Ile Thr His Val Pro Gly Gly Gly Asn  
 355 360 365

Lys Lys Ile Glu Thr His Lys Leu Thr Phe Arg Glu Asn Ala Lys Ala  
 370 375 380

Lys Thr Asp His Gly Ala Glu Ile Val Tyr Lys Ser Pro Val Val Ser  
 385 390 395 400

Gly Asp Thr Ser Pro Arg His Leu Ser Asn Val Ser Ser Thr Gly Ser  
 405 410 415

Ile Asp Met Val Asp Ser Pro Gln Leu Ala Thr Leu Ala Asp Glu Val  
 420 425 430

Ser Ala Ser Leu Ala Lys Gln Gly Leu  
 435 440

<210> 152  
 <211> 412  
 <212> PRT  
 <213> Homo sapiens

<400> 152  
 Met Ala Glu Pro Arg Gln Glu Phe Glu Val Met Glu Asp His Ala Gly  
 1 5 10 15

Thr Tyr Gly Leu Gly Asp Arg Lys Asp Gln Gly Gly Tyr Thr Met His  
 20 25 30

Gln Asp Gln Glu Gly Asp Thr Asp Ala Gly Leu Lys Glu Ser Pro Leu  
 35 40 45

Gln Thr Pro Thr Glu Asp Gly Ser Glu Glu Pro Gly Ser Glu Thr Ser  
50 55 60

Asp Ala Lys Ser Thr Pro Thr Ala Glu Ala Glu Glu Ala Gly Ile Gly  
65 70 75 80

Asp Thr Pro Ser Leu Glu Asp Glu Ala Ala Gly His Val Thr Gln Ala  
85 90 95

Arg Met Val Ser Lys Ser Lys Asp Gly Thr Gly Ser Asp Asp Lys Lys  
100 105 110

Ala Lys Gly Ala Asp Gly Lys Thr Lys Ile Ala Thr Pro Arg Gly Ala  
115 120 125

Ala Pro Pro Gly Gln Lys Gly Gln Ala Asn Ala Thr Arg Ile Pro Ala  
130 135 140

Lys Thr Pro Pro Ala Pro Lys Thr Pro Pro Ser Ser Gly Glu Pro Pro  
145 150 155 160

Lys Ser Gly Asp Arg Ser Gly Tyr Ser Ser Pro Gly Ser Pro Gly Thr  
165 170 175

Pro Gly Ser Arg Ser Arg Thr Pro Ser Leu Pro Thr Pro Pro Thr Arg  
180 185 190

Glu Pro Lys Lys Val Ala Val Val Arg Thr Pro Pro Lys Ser Pro Ser  
195 200 205

Ser Ala Lys Ser Arg Leu Gln Thr Ala Pro Val Pro Met Pro Asp Leu  
210 215 220

Lys Asn Val Lys Ser Lys Ile Gly Ser Thr Glu Asn Leu Lys His Gln  
225 230 235 240

Pro Gly Gly Gly Lys Val Gln Ile Ile Asn Lys Lys Leu Asp Leu Ser  
245 250 255

Asn Val Gln Ser Lys Cys Gly Ser Lys Asp Asn Ile Lys His Val Pro  
260 265 270

Gly Gly Gly Ser Val Gln Ile Val Tyr Lys Pro Val Asp Leu Ser Lys  
275 280 285

Val Thr Ser Lys Cys Gly Ser Leu Gly Asn Ile His His Lys Pro Gly  
290 295 300

Gly Gly Gln Val Glu Val Lys Ser Glu Lys Leu Asp Phe Lys Asp Arg  
305 310 315 320

Val Gln Ser Lys Ile Gly Ser Leu Asp Asn Ile Thr His Val Pro Gly  
325 330 335

Gly Gly Asn Lys Lys Ile Glu Thr His Lys Leu Thr Phe Arg Glu Asn  
340 345 350

Ala Lys Ala Lys Thr Asp His Gly Ala Glu Ile Val Tyr Lys Ser Pro  
355 360 365

Val Val Ser Gly Asp Thr Ser Pro Arg His Leu Ser Asn Val Ser Ser  
370 375 380

Thr Gly Ser Ile Asp Met Val Asp Ser Pro Gln Leu Ala Thr Leu Ala  
385 390 395 400

Asp Glu Val Ser Ala Ser Leu Ala Lys Gln Gly Leu  
405 410

<210> 153  
<211> 410  
<212> PRT  
<213> Homo sapiens

<400> 153  
Met Ala Glu Pro Arg Gln Glu Phe Glu Val Met Glu Asp His Ala Gly  
1 5 10 15

Thr Tyr Gly Leu Gly Asp Arg Lys Asp Gln Gly Gly Tyr Thr Met His  
20 25 30

Gln Asp Gln Glu Gly Asp Thr Asp Ala Gly Leu Lys Glu Ser Pro Leu  
35 40 45

Gln Thr Pro Thr Glu Asp Gly Ser Glu Glu Pro Gly Ser Glu Thr Ser  
50 55 60

Asp Ala Lys Ser Thr Pro Thr Ala Glu Asp Val Thr Ala Pro Leu Val  
65 70 75 80

Asp Glu Gly Ala Pro Gly Lys Gln Ala Ala Ala Gln Pro His Thr Glu  
85 90 95

Ile Pro Glu Gly Thr Thr Ala Glu Glu Ala Gly Ile Gly Asp Thr Pro  
100 105 110

Ser Leu Glu Asp Glu Ala Ala Gly His Val Thr Gln Ala Arg Met Val  
115 120 125

Ser Lys Ser Lys Asp Gly Thr Gly Ser Asp Asp Lys Lys Ala Lys Gly  
130 135 140

Ala Asp Gly Lys Thr Lys Ile Ala Thr Pro Arg Gly Ala Ala Pro Pro  
145 150 155 160

Gly Gln Lys Gly Gln Ala Asn Ala Thr Arg Ile Pro Ala Lys Thr Pro  
165 170 175

Pro Ala Pro Lys Thr Pro Pro Ser Ser Gly Glu Pro Pro Lys Ser Gly  
180 185 190

Asp Arg Ser Gly Tyr Ser Ser Pro Gly Ser Pro Gly Thr Pro Gly Ser  
195 200 205

Arg Ser Arg Thr Pro Ser Leu Pro Thr Pro Pro Thr Arg Glu Pro Lys  
210 215 220

Lys Val Ala Val Val Arg Thr Pro Pro Lys Ser Pro Ser Ser Ala Lys  
225 230 235 240

Ser Arg Leu Gln Thr Ala Pro Val Pro Met Pro Asp Leu Lys Asn Val  
245 250 255

Lys Ser Lys Ile Gly Ser Thr Glu Asn Leu Lys His Gln Pro Gly Gly  
260 265 270

Gly Lys Val Gln Ile Val Tyr Lys Pro Val Asp Leu Ser Lys Val Thr  
 275 280 285

Ser Lys Cys Gly Ser Leu Gly Asn Ile His His Lys Pro Gly Gly Gly  
 290 295 300

Gln Val Glu Val Lys Ser Glu Lys Leu Asp Phe Lys Asp Arg Val Gln  
 305 310 315 320

Ser Lys Ile Gly Ser Leu Asp Asn Ile Thr His Val Pro Gly Gly Gly  
 325 330 335

Asn Lys Lys Ile Glu Thr His Lys Leu Thr Phe Arg Glu Asn Ala Lys  
 340 345 350

Ala Lys Thr Asp His Gly Ala Glu Ile Val Tyr Lys Ser Pro Val Val  
 355 360 365

Ser Gly Asp Thr Ser Pro Arg His Leu Ser Asn Val Ser Ser Thr Gly  
 370 375 380

Ser Ile Asp Met Val Asp Ser Pro Gln Leu Ala Thr Leu Ala Asp Glu  
 385 390 395 400

Val Ser Ala Ser Leu Ala Lys Gln Gly Leu  
 405 410

<210> 154  
 <211> 383  
 <212> PRT  
 <213> Homo sapiens

<400> 154  
 Met Ala Glu Pro Arg Gln Glu Phe Glu Val Met Glu Asp His Ala Gly  
 1 5 10 15

Thr Tyr Gly Leu Gly Asp Arg Lys Asp Gln Gly Gly Tyr Thr Met His  
 20 25 30

Gln Asp Gln Glu Gly Asp Thr Asp Ala Gly Leu Lys Ala Glu Glu Ala  
 35 40 45

Gly Ile Gly Asp Thr Pro Ser Leu Glu Asp Glu Ala Ala Gly His Val  
50 55 60

Thr Gln Ala Arg Met Val Ser Lys Ser Lys Asp Gly Thr Gly Ser Asp  
65 70 75 80

Asp Lys Lys Ala Lys Gly Ala Asp Gly Lys Thr Lys Ile Ala Thr Pro  
85 90 95

Arg Gly Ala Ala Pro Pro Gly Gln Lys Gly Gln Ala Asn Ala Thr Arg  
100 105 110

Ile Pro Ala Lys Thr Pro Pro Ala Pro Lys Thr Pro Pro Ser Ser Gly  
115 120 125

Glu Pro Pro Lys Ser Gly Asp Arg Ser Gly Tyr Ser Ser Pro Gly Ser  
130 135 140

Pro Gly Thr Pro Gly Ser Arg Ser Arg Thr Pro Ser Leu Pro Thr Pro  
145 150 155 160

Pro Thr Arg Glu Pro Lys Lys Val Ala Val Val Arg Thr Pro Pro Lys  
165 170 175

Ser Pro Ser Ser Ala Lys Ser Arg Leu Gln Thr Ala Pro Val Pro Met  
180 185 190

Pro Asp Leu Lys Asn Val Lys Ser Lys Ile Gly Ser Thr Glu Asn Leu  
195 200 205

Lys His Gln Pro Gly Gly Gly Lys Val Gln Ile Ile Asn Lys Lys Leu  
210 215 220

Asp Leu Ser Asn Val Gln Ser Lys Cys Gly Ser Lys Asp Asn Ile Lys  
225 230 235 240

His Val Pro Gly Gly Gly Ser Val Gln Ile Val Tyr Lys Pro Val Asp  
245 250 255

Leu Ser Lys Val Thr Ser Lys Cys Gly Ser Leu Gly Asn Ile His His  
260 265 270

Lys Pro Gly Gly Gly Gln Val Glu Val Lys Ser Glu Lys Leu Asp Phe  
275 280 285

Lys Asp Arg Val Gln Ser Lys Ile Gly Ser Leu Asp Asn Ile Thr His  
290 295 300

Val Pro Gly Gly Gly Asn Lys Lys Ile Glu Thr His Lys Leu Thr Phe  
305 310 315 320

Arg Glu Asn Ala Lys Ala Lys Thr Asp His Gly Ala Glu Ile Val Tyr  
325 330 335

Lys Ser Pro Val Val Ser Gly Asp Thr Ser Pro Arg His Leu Ser Asn  
340 345 350

Val Ser Ser Thr Gly Ser Ile Asp Met Val Asp Ser Pro Gln Leu Ala  
355 360 365

Thr Leu Ala Asp Glu Val Ser Ala Ser Leu Ala Lys Gln Gly Leu  
370 375 380

<210> 155  
<211> 381  
<212> PRT  
<213> Homo sapiens

<400> 155  
Met Ala Glu Pro Arg Gln Glu Phe Glu Val Met Glu Asp His Ala Gly  
1 5 10 15

Thr Tyr Gly Leu Gly Asp Arg Lys Asp Gln Gly Gly Tyr Thr Met His  
20 25 30

Gln Asp Gln Glu Gly Asp Thr Asp Ala Gly Leu Lys Glu Ser Pro Leu  
35 40 45

Gln Thr Pro Thr Glu Asp Gly Ser Glu Glu Pro Gly Ser Glu Thr Ser  
50 55 60

Asp Ala Lys Ser Thr Pro Thr Ala Glu Ala Glu Glu Ala Gly Ile Gly  
65 70 75 80

Asp Thr Pro Ser Leu Glu Asp Glu Ala Ala Gly His Val Thr Gln Ala  
85 90 95

Arg Met Val Ser Lys Ser Lys Asp Gly Thr Gly Ser Asp Asp Lys Lys  
100 105 110

Ala Lys Gly Ala Asp Gly Lys Thr Lys Ile Ala Thr Pro Arg Gly Ala  
115 120 125

Ala Pro Pro Gly Gln Lys Gly Gln Ala Asn Ala Thr Arg Ile Pro Ala  
130 135 140

Lys Thr Pro Pro Ala Pro Lys Thr Pro Pro Ser Ser Gly Glu Pro Pro  
145 150 155 160

Lys Ser Gly Asp Arg Ser Gly Tyr Ser Ser Pro Gly Ser Pro Gly Thr  
165 170 175

Pro Gly Ser Arg Ser Arg Thr Pro Ser Leu Pro Thr Pro Pro Thr Arg  
180 185 190

Glu Pro Lys Lys Val Ala Val Val Arg Thr Pro Pro Lys Ser Pro Ser  
195 200 205

Ser Ala Lys Ser Arg Leu Gln Thr Ala Pro Val Pro Met Pro Asp Leu  
210 215 220

Lys Asn Val Lys Ser Lys Ile Gly Ser Thr Glu Asn Leu Lys His Gln  
225 230 235 240

Pro Gly Gly Gly Lys Val Gln Ile Val Tyr Lys Pro Val Asp Leu Ser  
245 250 255

Lys Val Thr Ser Lys Cys Gly Ser Leu Gly Asn Ile His His Lys Pro  
260 265 270

Gly Gly Gly Gln Val Glu Val Lys Ser Glu Lys Leu Asp Phe Lys Asp  
275 280 285

Arg Val Gln Ser Lys Ile Gly Ser Leu Asp Asn Ile Thr His Val Pro  
290 295 300

Gly Gly Gly Asn Lys Lys Ile Glu Thr His Lys Leu Thr Phe Arg Glu  
 305 310 315 320

Asn Ala Lys Ala Lys Thr Asp His Gly Ala Glu Ile Val Tyr Lys Ser  
 325 330 335

Pro Val Val Ser Gly Asp Thr Ser Pro Arg His Leu Ser Asn Val Ser  
 340 345 350

Ser Thr Gly Ser Ile Asp Met Val Asp Ser Pro Gln Leu Ala Thr Leu  
 355 360 365

Ala Asp Glu Val Ser Ala Ser Leu Ala Lys Gln Gly Leu  
 370 375 380

<210> 156  
 <211> 352  
 <212> PRT  
 <213> Homo sapiens

<400> 156  
 Met Ala Glu Pro Arg Gln Glu Phe Glu Val Met Glu Asp His Ala Gly  
 1 5 10 15

Thr Tyr Gly Leu Gly Asp Arg Lys Asp Gln Gly Gly Tyr Thr Met His  
 20 25 30

Gln Asp Gln Glu Gly Asp Thr Asp Ala Gly Leu Lys Ala Glu Glu Ala  
 35 40 45

Gly Ile Gly Asp Thr Pro Ser Leu Glu Asp Glu Ala Ala Gly His Val  
 50 55 60

Thr Gln Ala Arg Met Val Ser Lys Ser Lys Asp Gly Thr Gly Ser Asp  
 65 70 75 80

Asp Lys Lys Ala Lys Gly Ala Asp Gly Lys Thr Lys Ile Ala Thr Pro  
 85 90 95

Arg Gly Ala Ala Pro Pro Gly Gln Lys Gly Gln Ala Asn Ala Thr Arg  
 100 105 110

Ile Pro Ala Lys Thr Pro Pro Ala Pro Lys Thr Pro Pro Ser Ser Gly  
115 120 125

Glu Pro Pro Lys Ser Gly Asp Arg Ser Gly Tyr Ser Ser Pro Gly Ser  
130 135 140

Pro Gly Thr Pro Gly Ser Arg Ser Arg Thr Pro Ser Leu Pro Thr Pro  
145 150 155 160

Pro Thr Arg Glu Pro Lys Lys Val Ala Val Val Arg Thr Pro Pro Lys  
165 170 175

Ser Pro Ser Ser Ala Lys Ser Arg Leu Gln Thr Ala Pro Val Pro Met  
180 185 190

Pro Asp Leu Lys Asn Val Lys Ser Lys Ile Gly Ser Thr Glu Asn Leu  
195 200 205

Lys His Gln Pro Gly Gly Gly Lys Val Gln Ile Val Tyr Lys Pro Val  
210 215 220

Asp Leu Ser Lys Val Thr Ser Lys Cys Gly Ser Leu Gly Asn Ile His  
225 230 235 240

His Lys Pro Gly Gly Gly Gln Val Glu Val Lys Ser Glu Lys Leu Asp  
245 250 255

Phe Lys Asp Arg Val Gln Ser Lys Ile Gly Ser Leu Asp Asn Ile Thr  
260 265 270

His Val Pro Gly Gly Gly Asn Lys Lys Ile Glu Thr His Lys Leu Thr  
275 280 285

Phe Arg Glu Asn Ala Lys Ala Lys Thr Asp His Gly Ala Glu Ile Val  
290 295 300

Tyr Lys Ser Pro Val Val Ser Gly Asp Thr Ser Pro Arg His Leu Ser  
305 310 315 320

Asn Val Ser Ser Thr Gly Ser Ile Asp Met Val Asp Ser Pro Gln Leu  
325 330 335

Ala Thr Leu Ala Asp Glu Val Ser Ala Ser Leu Ala Lys Gln Gly Leu  
340 345 350

<210> 157  
<211> 6  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic peptide

<220>  
<221> MOD\_RES  
<222> (2)..(2)  
<223> Any amino acid

<400> 157  
His Xaa Pro Gly Gly Gly  
1 5

<210> 158  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic primer

<400> 158  
tgtaaaacga cggccagt 18

<210> 159  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic primer

<400> 159  
caggaaacag ctatgacc 18

<210> 160  
<211> 45  
<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic primer

<400> 160

tgtaaaacga cggccagtat ggctgtccta gggctactct tctgc

45

<210> 161

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic primer

<400> 161

caggaaacag ctatgaccca gtggatagac agatggggg

39

<210> 162

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic primer

<400> 162

caggaaacag ctatgaccca gtggatagac cgatggggc

39

<210> 163

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic primer

<400> 163

caggaaacag ctatgaccca gtggatagac tgatggggg

39

<210> 164

<211> 39

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic primer

<400> 164  
caggaaacag ctatgacca agggatagac agatggggc 39

<210> 165  
<211> 48  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic primer

<400> 165  
tgtaaacga cggccagtat ggattttcag gtgcagatta tcagcttc 48

<210> 166  
<211> 38  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic primer

<400> 166  
caggaaacag ctatgaccac tggatggtgg gaagatgg 38

<210> 167  
<211> 101  
<212> PRT  
<213> Mus musculus

<400> 167  
Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala Val Ser Ala Gly  
1 5 10 15

Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser  
20 25 30

Arg Thr Arg Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln  
35 40 45

Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
50 55 60

Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
65 70 75 80

Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr Tyr Cys Lys Gln  
85 90 95

Ser Tyr Asn Leu Pro  
100

<210> 168  
<211> 101  
<212> PRT  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic  
polypeptide

<400> 168  
Asp Ile Val Met Ser Gln Ser Pro Ser Ser Leu Ala Val Ser Ala Gly  
1 5 10 15

Glu Lys Val Thr Met Ser Cys Lys Ser Ser Gln Ser Leu Leu Asn Ser  
20 25 30

Arg Thr Arg Lys Asn Tyr Leu Ala Trp Tyr Gln Gln Lys Pro Gly Gln  
35 40 45

Ser Pro Lys Leu Leu Ile Tyr Trp Ala Ser Thr Arg Glu Ser Gly Val  
50 55 60

Pro Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr  
65 70 75 80

Ile Ser Ser Val Gln Ala Glu Asp Leu Ala Val Tyr Tyr Cys Lys Gln  
85 90 95

Ser Phe Tyr Leu Arg  
100

<210> 169  
<211> 98  
<212> PRT  
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 169

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Thr  
1 5 10 15

Ser Val Lys Met Pro Cys Lys Ala Ser Gly Tyr Ile Phe Thr Asp Tyr  
20 25 30

Val Ile Ser Trp Val Lys Gln Arg Thr Gly Gln Gly Leu Glu Trp Ile  
35 40 45

Gly Glu Ile Phe Pro Arg Ser Gly Ser Thr Tyr Tyr Asn Glu Lys Phe  
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Asn Thr Ala Tyr  
65 70 75 80

Met Gln Leu Ser Ser Val Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys  
85 90 95

Ala Arg

<210> 170

<211> 107

<212> PRT

<213> Homo sapiens

<400> 170

Arg Thr Val Ala Ala Pro Ser Val Phe Ile Phe Pro Pro Ser Asp Glu  
1 5 10 15

Gln Leu Lys Ser Gly Thr Ala Ser Val Val Cys Leu Leu Asn Asn Phe  
20 25 30

Tyr Pro Arg Glu Ala Lys Val Gln Trp Lys Val Asp Asn Ala Leu Gln  
35 40 45

Ser Gly Asn Ser Gln Glu Ser Val Thr Glu Gln Asp Ser Lys Asp Ser  
50 55 60

Thr Tyr Ser Leu Ser Ser Thr Leu Thr Leu Ser Lys Ala Asp Tyr Glu

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 65  |     |     |     |     | 70  |     |     |     |     |     | 75  |     |     |     | 80  |
| Lys | His | Lys | Val | Tyr | Ala | Cys | Glu | Val | Thr | His | Gln | Gly | Leu | Ser | Ser |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |

|     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Val | Thr | Lys | Ser | Phe | Asn | Arg | Gly | Glu | Cys |
|     |     |     | 100 |     |     |     |     | 105 |     |     |

<210> 171  
 <211> 106  
 <212> PRT  
 <213> Homo sapiens

|           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 171 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Thr       | Val | Ala | Ala | Pro | Ser | Val | Phe | Ile | Phe | Pro | Pro | Ser | Asp | Glu | Gln |
| 1         |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Leu | Lys | Ser | Gly | Thr | Ala | Ser | Val | Val | Cys | Leu | Leu | Asn | Asn | Phe | Tyr |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Pro | Arg | Glu | Ala | Lys | Val | Gln | Trp | Lys | Val | Asp | Asn | Ala | Leu | Gln | Ser |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Gly | Asn | Ser | Gln | Glu | Ser | Val | Thr | Glu | Gln | Asp | Ser | Lys | Asp | Ser | Thr |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Tyr | Ser | Leu | Ser | Ser | Thr | Leu | Thr | Leu | Ser | Lys | Ala | Asp | Tyr | Glu | Lys |
| 65  |     |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| His | Lys | Val | Tyr | Ala | Cys | Glu | Val | Thr | His | Gln | Gly | Leu | Ser | Ser | Pro |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |

|     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Val | Thr | Lys | Ser | Phe | Asn | Arg | Gly | Glu | Cys |
|     |     |     | 100 |     |     |     |     | 105 |     |

<210> 172  
 <211> 330  
 <212> PRT  
 <213> Homo sapiens

|           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <400> 172 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| Ala       | Ser | Thr | Lys | Gly | Pro | Ser | Val | Phe | Pro | Leu | Ala | Pro | Ser | Ser | Lys |
| 1         |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |

Ser Thr Ser Gly Gly Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr  
 20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser  
 35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser  
 50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Gln Thr  
 65 70 75 80

Tyr Ile Cys Asn Val Asn His Lys Pro Ser Asn Thr Lys Val Asp Lys  
 85 90 95

Lys Val Glu Pro Lys Ser Cys Asp Lys Thr His Thr Cys Pro Pro Cys  
 100 105 110

Pro Ala Pro Glu Leu Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro  
 115 120 125

Lys Pro Lys Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys  
 130 135 140

Val Val Val Asp Val Ser His Glu Asp Pro Glu Val Lys Phe Asn Trp  
 145 150 155 160

Tyr Val Asp Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu  
 165 170 175

Glu Gln Tyr Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu  
 180 185 190

His Gln Asp Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn  
 195 200 205

Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly  
 210 215 220

Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Glu Glu  
 225 230 235 240

Met Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr  
245 250 255

Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn  
260 265 270

Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe  
275 280 285

Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly Asn  
290 295 300

Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr  
305 310 315 320

Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys  
325 330

<210> 173  
<211> 327  
<212> PRT  
<213> Homo sapiens

<400> 173  
Ala Ser Thr Lys Gly Pro Ser Val Phe Pro Leu Ala Pro Cys Ser Arg  
1 5 10 15

Ser Thr Ser Glu Ser Thr Ala Ala Leu Gly Cys Leu Val Lys Asp Tyr  
20 25 30

Phe Pro Glu Pro Val Thr Val Ser Trp Asn Ser Gly Ala Leu Thr Ser  
35 40 45

Gly Val His Thr Phe Pro Ala Val Leu Gln Ser Ser Gly Leu Tyr Ser  
50 55 60

Leu Ser Ser Val Val Thr Val Pro Ser Ser Ser Leu Gly Thr Lys Thr  
65 70 75 80

Tyr Thr Cys Asn Val Asp His Lys Pro Ser Asn Thr Lys Val Asp Lys  
85 90 95

Arg Val Glu Ser Lys Tyr Gly Pro Pro Cys Pro Pro Cys Pro Ala Pro  
 100 105 110

Glu Phe Leu Gly Gly Pro Ser Val Phe Leu Phe Pro Pro Lys Pro Lys  
 115 120 125

Asp Thr Leu Met Ile Ser Arg Thr Pro Glu Val Thr Cys Val Val Val  
 130 135 140

Asp Val Ser Gln Glu Asp Pro Glu Val Gln Phe Asn Trp Tyr Val Asp  
 145 150 155 160

Gly Val Glu Val His Asn Ala Lys Thr Lys Pro Arg Glu Glu Gln Phe  
 165 170 175

Asn Ser Thr Tyr Arg Val Val Ser Val Leu Thr Val Leu His Gln Asp  
 180 185 190

Trp Leu Asn Gly Lys Glu Tyr Lys Cys Lys Val Ser Asn Lys Gly Leu  
 195 200 205

Pro Ser Ser Ile Glu Lys Thr Ile Ser Lys Ala Lys Gly Gln Pro Arg  
 210 215 220

Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Gln Glu Glu Met Thr Lys  
 225 230 235 240

Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe Tyr Pro Ser Asp  
 245 250 255

Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu Asn Asn Tyr Lys  
 260 265 270

Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe Phe Leu Tyr Ser  
 275 280 285

Arg Leu Thr Val Asp Lys Ser Arg Trp Gln Glu Gly Asn Val Phe Ser  
 290 295 300

Cys Ser Val Met His Glu Ala Leu His Asn His Tyr Thr Gln Lys Ser  
 305 310 315 320

Leu Ser Leu Ser Leu Gly Lys  
325

<210> 174  
<211> 19  
<212> PRT  
<213> Homo sapiens

<400> 174  
Met Asp Trp Thr Trp Arg Phe Leu Phe Val Val Ala Ala Val Thr Gly  
1 5 10 15

Val Gln Ser

<210> 175  
<211> 15  
<212> PRT  
<213> Homo sapiens

<400> 175  
Gln Leu Leu Gly Leu Leu Met Leu Trp Val Ser Gly Ser Ser Gly  
1 5 10 15

<210> 176  
<211> 111  
<212> PRT  
<213> Homo sapiens

<400> 176  
Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly  
1 5 10 15

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Gln Ser Leu Leu His Ile  
20 25 30

Asn Gly Tyr Asn Tyr Leu Asp Trp Tyr Leu Gln Lys Pro Gly Gln Ser  
35 40 45

Pro Gln Leu Leu Ile Tyr Leu Gly Ser Asn Arg Ala Ser Gly Val Pro  
50 55 60

Asp Arg Phe Thr Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile  
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln Ala  
85 90 95

Leu Gln Pro Trp Thr Phe Gly Gln Gly Thr Lys Val Glu Ile Lys  
100 105 110

<210> 177

<211> 120

<212> PRT

<213> Homo sapiens

<400> 177

Gln Val Gln Leu Val Gln Ser Gly Ala Glu Val Lys Lys Pro Gly Ser  
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Gly Thr Phe Ser Ser Tyr  
20 25 30

Ala Ile Ser Trp Val Arg Gln Ala Pro Gly Gln Gly Leu Glu Trp Met  
35 40 45

Gly Gly Ile Ile Pro Ile Phe Gly Thr Ala Asn Tyr Ala Gln Lys Phe  
50 55 60

Gln Gly Arg Val Thr Ile Thr Ala Asp Lys Ser Thr Ser Thr Ala Tyr  
65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys  
85 90 95

Ala Arg Gly Ser Thr Val Thr Thr Gly Asp Phe Asp Tyr Trp Gly Gln  
100 105 110

Gly Thr Leu Val Thr Val Ser Ser  
115 120